APR 29 1946
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DISTRIBUTION AGE

APRIL, 1946

THAT INTEGRATES ALL PHASES OF DISTRIBUTION



REFERENCE
DO NOT LOAN

THIS MONTH **WATER TRANSPORTATION** In Relation to HANDLING • MARKETING • PACKING and PACKAGING FINANCE • INSURANCE • WAREHOUSING • SERVICE and MAINTENANCE



CARGO – SERVED UP AIR LINE STYLE!

To TWA—long one of the world's leading air lines—a single minute can mean five miles travelled in the air, or five miles lost on the ground. More than a year ago, Trans World Airline set out to shorten cargo handling time at terminals to keep pace with faster flight schedules made possible by improved aircraft.

After making a thorough study of its existing handling methods and investigating the methods and equipment used by other air lines, as well as by the Army and Navy during the war, TWA selected Towmotor Lift Trucks and Industrial Tractors, basing its choice on Towmotor's performance in handling all types of air cargo.

An unusual application of the lift truck system was worked out by TWA, whereby special 4-wheeled cargo trailers are moved in trains to plane side by Towmotor Tractors, at which point a Towmotor Lift Truck raises each trailer to plane loading level. This arrangement not only speeds up loading and unloading, but the trailer itself provides extra working space for cargo handlers, simplifying movement of cargo in and out of the plane and expediting balanced loading, particularly important in air transport.

The use of 4-wheeled trailers with Towmotor Tractors also enables TWA to collect various types of cargo, such as baggage, air mail and air express, at separate points in the terminal and move it rapidly and safely to plane side for loading. Similarly, unloaded cargo is distributed quickly and carefully to various locations at the airport.

For every handling problem there is an engineered solution . . . a solution based upon Towmotor experience and know-how gained in solving handling problems in every industry. Send for your copy of the Towmotor Lift Truck ANALYSIS GUIDE today. Towmotor Corporation, 1235 East 152nd Street, Cleveland 10, Ohio.

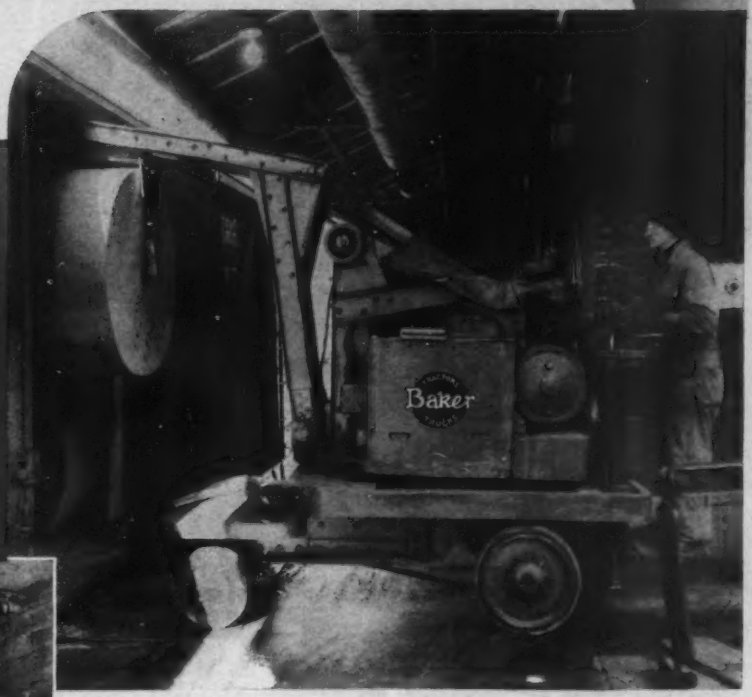
TAKE IT UP WITH

TOWMOTOR

THE ONE-MAN-GANG

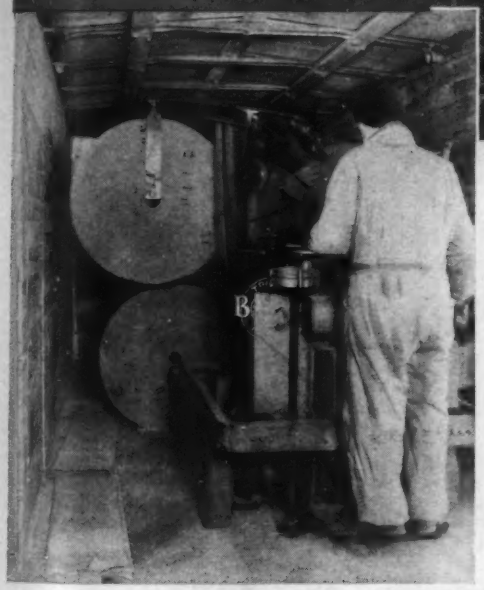
Baker Truck

CUTS HANDLING COSTS $28,800 PER YEAR



Baker Crane truck with special boom saves time and money unloading heavy rolls of felt from box car.

Design and flexibility of truck permit it to enter box car, thus mechanizing entire unloading operation.



● A floor-covering manufacturer reduced the man-hours required for handling heavy bulky rolls of felt by ⅔, and made actual savings of $96.00 a day by installing a Baker Crane Truck with special boom. His truck makes a simple task of unloading these rolls from box cars, moving them to storage and later to production . . . Besides the actual money savings, the truck enabled the manufacturer to make better use of warehouse space by tiering, to speed movement of materials in storage and production departments, to reduce damage to material from handling, and to make the job safer and easier for workers.

If lowering production costs to meet price ceilings is your problem, Baker Trucks may provide the answer. Consult your nearest Baker representative or write us direct.

BAKER INDUSTRIAL TRUCK DIVISION
of The Baker-Raulang Company
2176 West 25th Street • Cleveland, Ohio
In Canada: Railway and Power Engineering Corporation, Limited

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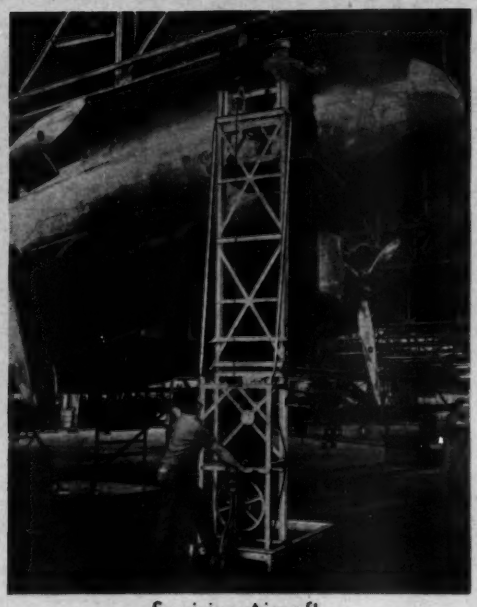
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Electric Industrial Truck Association



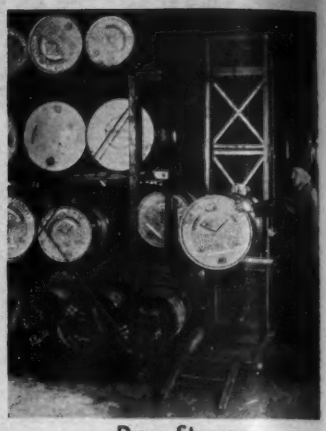
ECONOMY LIFTERS
speed material handling



Stacking Cotton



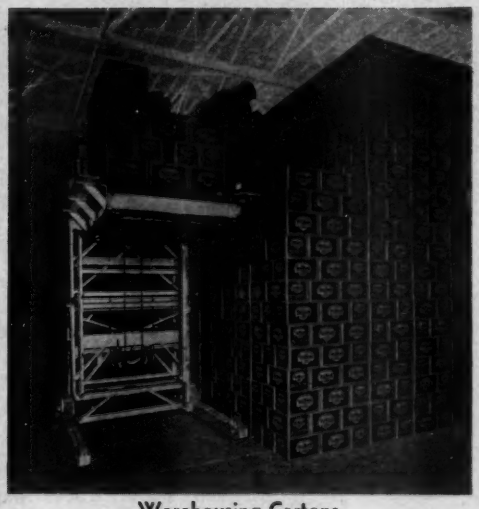
Servicing Aircraft



Drum Storage



Loading Trucks



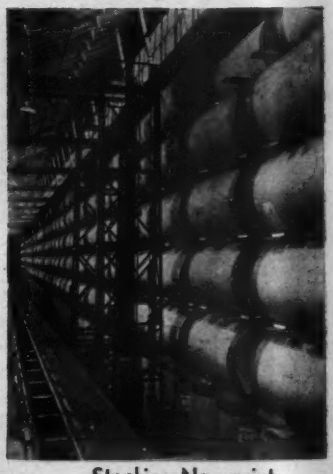
Warehousing Cartons



Racking Hogsheads



Drum Tilter

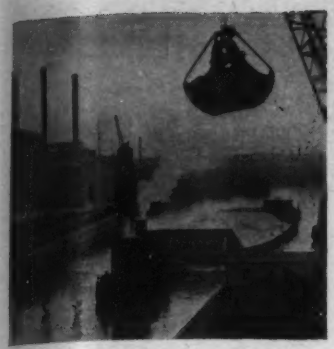


Stacking Newsprint

ECONOMY ENGINEERING COMPANY

2661 W. Van Buren St.

Chicago, Illinois



THIS MONTH'S COVER suggests the importance of water transportation in distribution.

APRIL, 1946

VOL. 45, NO. 4

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A Chilton Publication

Published Monthly by

DISTRIBUTION and WAREHOUSING PUBLICATIONS, Inc.
100 East 42nd Street
New York 17, N. Y.
Telephone MUrray Hill 5-8600

OFFICERS AND DIRECTORS
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Subscription Rates: U. S., $5.00 per year; Canada, $6.50 per year; Foreign Countries, $6.00 per year. Single Copies, 50c. each.

Acceptance under the Act of June 5, 1934 at New York, N. Y., authorized Feb. 8, 1939

DISTRIBUTION AGE

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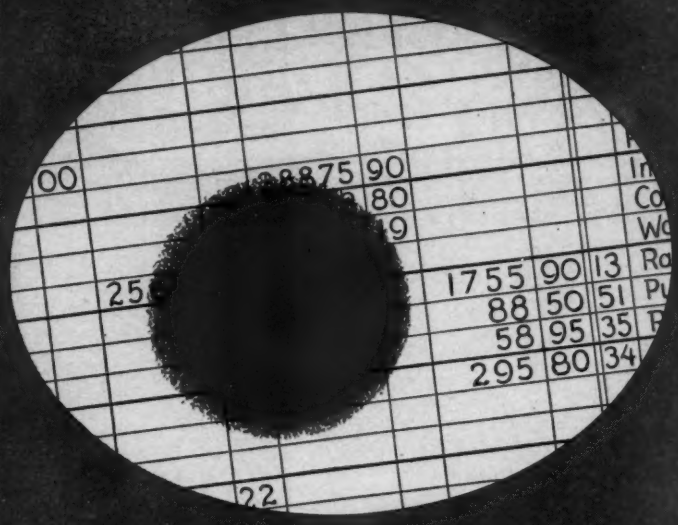
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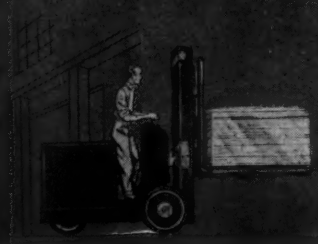
BASIC POLICY

EVERY business is engaged in and affected by distribution. All firms, industrial and mercantile, are shippers as well as receivers; all use transportation; all are confronted with handling and packing problems; all are concerned to some extent with the proper storage of raw materials or finished products; all have to deal with vexing financial and marketing questions; all need insurance; all have to consider service and maintenance of one kind or another. These are all phases of distribution, which begins before production with the movement of raw materials, and continues after production until a finished product reaches its ultimate destination, the final user or consumer.

DISTRIBUTION AGE believes that costs can be cut by better integration of all phases of distribution; that a part of the resultant savings should be passed on to consumers to increase buying power; that by intelligent simplification and standardization of methods and practices distribution can be made more efficient and profitable in all branches of commerce and industry. The policy of this publication is to assist business management in the attainment of those objectives.



Is a "blind spot" in your cost accounting hiding unsuspected wastes?



Cut material handling costs in half with ELECTRIC Industrial Trucks!

Most for your money with electric industrial trucks because of these performance features:

Inherently dependable
Built for long, hard service
Provide maximum safety—best working conditions
Fast handling and accurate spotting
Effective use of lowest cost power
Records prove lowest overall cost
Used in every industry

HIGHEST EARNINGS—
GREATEST SAVINGS



Send for these BOOKLETS

As practical aids to management in locating and correcting wasteful methods, we offer two illustrated booklets—MATERIAL HANDLING HANDBOOK and UNIT LOADS. Write us for free copies.

A major cost factor in most industries is the handling of goods—unloading—lifting—moving—placing—stacking—loading—again and again from receiving to shipping. Handling and storing consume at least 70% of the total time spent by materials in the average plant. Here is a prolific source of wastes—and potential savings.

Do *you know* your own material handling costs per unit or per ton of output? They may point to startling inefficiencies in the use of time, manpower and investment. Needless handling—that so easily goes unrecognized—costs money, wastes space and adds not a cent to the value of the finished product.

New methods, using efficiently planned loads and sturdy *electric self-loading industrial trucks* are cutting handling costs—often more than half—through multiplying the worker's capacity from 5 to 25 times. That is why we say to cost-conscious management—"When you check your handling costs, you'll standardize on *electric* industrial trucks."

The Electric Industrial Truck Association

208A SOUTH LA SALLE STREET, CHICAGO 4, ILLINOIS



"Toughest" Hauling

now MORE than matched by new corrugated van with

3 MAJOR STRUCTURAL IMPROVEMENTS

The *corrugated* Trailmobile is fast becoming *standard* for terminal and other *"trailer-killing"* operations!

Its sides, wherein rugged corrugations form a solid wall of sturdy posts, are famed for their outstanding body-strength. Now, Trailmobile uses corrugations to make a body 2 to 3 times stronger, throughout, than that of *any* other trailer-van!

A "folding back" of its sides makes them *doubly thick* all along both top and bottom, therefore 4 *times stronger!* And *identical* rub-rails at both top and bottom are *double* ribbed, creating *double* the strength to resist impacts and protect the corrugations.

Its under-structure is that of the famed Smooth-Panel Trailmobile —with "distributing beams" that "spread" load-stresses, preventing stress-concentration. Its under-carriage is Trailmobile's standard—long accepted by the industry as the "easiest pulling"—nevertheless now still *further* refined and improved.

So for hauling considered "too tough" for *any* ordinary trailer, thousands insist on *only* this new corrugated model-CP Trailmobile—with its surprisingly low upkeep!

For instance, to replace damaged panels, you simply unbuckle the Lock-strip, "torch out" the damaged piece, weld in a new one, replace the Lock-strip. And, its plywood, when damaged, simply "snaps" into slots and is then "locked" to stop vibration by a special plywood Belt-rail!

See this trailer at your near-by Trailmobile Branch. You'll like it. Or, write us. ACCEPT without obligation, complete literature FREE.

THE TRAILMOBILE COMPANY
Cincinnati 9, Ohio

TRAILMOBILE

Protecting its 105 Year Reputation
—71 "Homefolks" Service Centers

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Story by Gorea...

action by MACK!

Philip John Gorea is president of a thriving trucking business in Utica, New York. For the success of the operation, he gives a large share of the credit to Mack Trucks.

"Dependable service," Mr. Gorea writes, "is the key to success in the motor freight transportation field. The performance of our fleet of Macks has been one of the most important contributing factors in that service in terms of operating performance and economy of maintenance. This statement is based on experience with Mack Trucks since 1926."

The records of American business for nearly half a century, in every field in which trucks are used, show that "you can't beat a Mack" for performance, economy, and long, useful life. Now is the time to find out what Macks can do for you.



Mack Trucks, Inc., Empire State Building, New York 1, N. Y. Factories at Allentown, Pa.; Plainfield, N. J.; New Brunswick, N. J.; Long Island City, New York. Factory branches and dealers in all principal cities for service and parts.

Mack
TRUCKS
FOR EVERY PURPOSE



Performance Counts

At Your Service

AIRPORT to AIRPORT or DOOR to DOOR

THE speed and frequency of air-freight service is yours *either* way, via TWA.

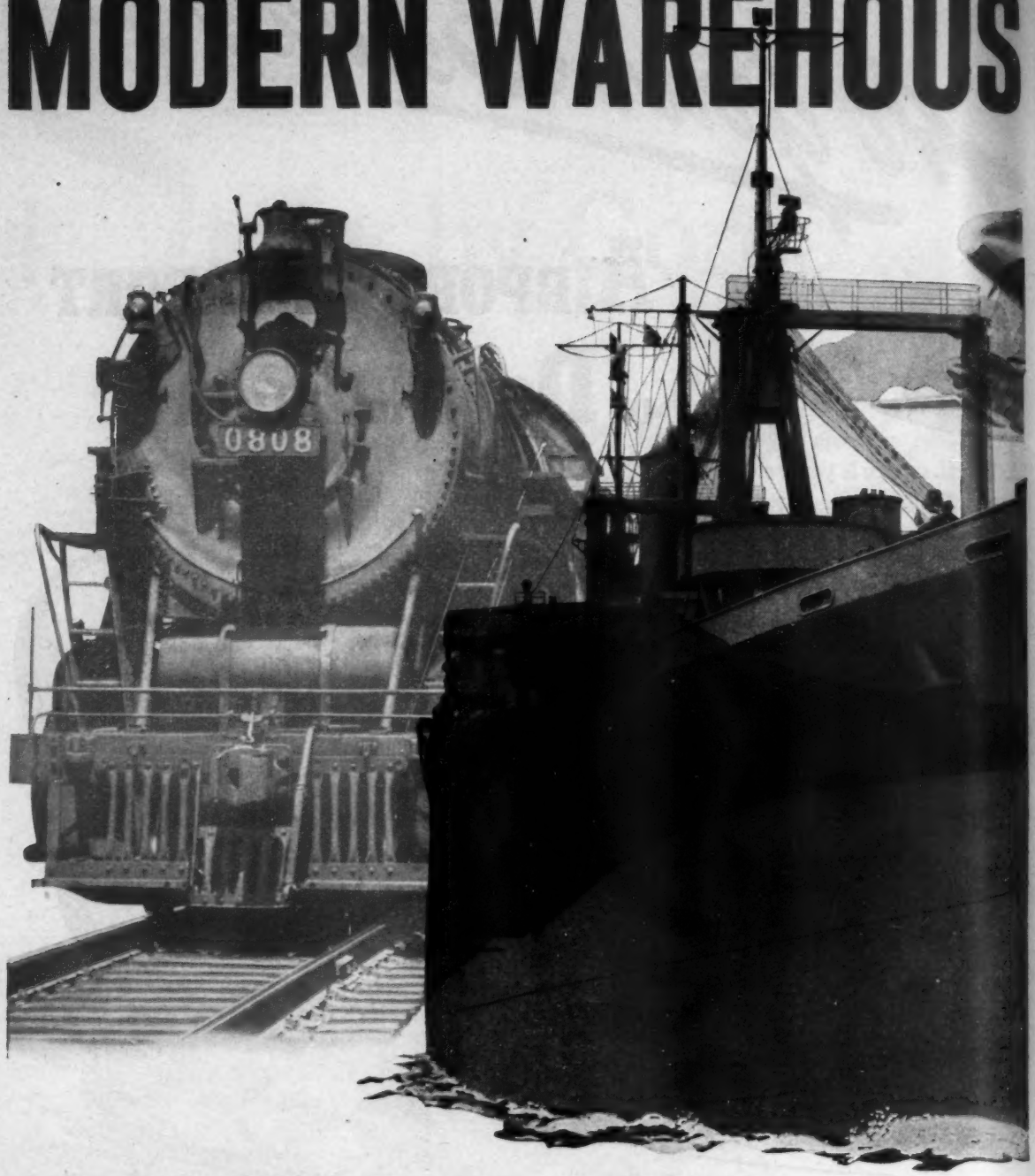
You can ship your consignments on an airport-to-airport or door-to-door basis, as you wish. And that applies to *all 41 cities* on TWA trans-continental routes.

Here is airfreight service tailored to your needs on a nationwide scale. Here is the convenience of local pick-ups and deliveries or the economy of city-to-city transportation—each coupled with the speed of flight.

That's worth a lot—but it usually costs even less than inquiring shippers think. For full information, schedules and rates —including special rates for shipments of 3,000 lbs. or more—call your local TWA Airfreight office.



MODERN WAREHOUS



LOOK AGAIN! THEY'RE THERE! DOLLARS ON YOUR DOORSTEP FOR EMERGENCY-FINANCING

Plenty of bank-credit you never thought you had . . . sound, usable collateral in the form of your inventories of raw materials or finished merchandise accumulated right on your own property.

Field-warehouse these dormant assets the Tidewater way, right on your own premises. Take Tidewater's warehouse-receipts to your local bank and borrow upon them, at low, secured-loan rates, while saving the expense of shipping, handling, and storage.

Storage, bonding, custodianship, withdrawals, records . . . all are covered in this convenient, economical Tidewater service. Join the growing list of manufacturers, distributors, and processors who are using Tidewater Field Warehousing to their very great advantage. Write for full particulars today.

TIDEWATER FIELD WAREHOUSES, INC.

John J. McMackin, *Vice-Pres.*: 17 State St., New York 4, N.Y. • E. C. Thomson, *Vice-Pres.*: Pleasant St., Easthampton, Mass.

A Unit of The Chain of Tidewater Terminals and Inland Warehouses

ING geared to the needs of WORLD COMMERCE





Two important units of The Chain of Tidewater Terminals and Inland Warehouses, strategically situated in the New York metropolitan area. Their outstanding facilities are rapidly becoming available again.

AT BAYWAY (Elizabeth, N. J.)

Some 1,070,000 square feet of modern storage and manufacturing space, within 30 minutes of Manhattan. Protected loading-platforms for trucks and railway-cars; deep-water and inland-waterway docks; railroad and lighterage service. Here are live steam for manufacturing, the finest loading and storage equipment, one of the world's outstanding fumigation plants, and numerous other desirable and unique facilities. 100 per cent sprinkler-protection, with low insurance rates.

BAYWAY TERMINAL CORPORATION
Bayway (Elizabeth) 2, New Jersey
R. S. McELROY, *Vice-Pres. & Gen. Mgr.*
(Operated by Lincoln Tidewater Terminals)

AT PORT NEWARK (Port of New York)

Exceptional facilities for the low-cost, safe, fast, and efficient handling, shipping, and storage of both bulk and packaged goods. Specially trained personnel with complete modern equipment, assure swift, efficient handling of your merchandise. Low-cost insurance. This huge modern terminal has an enviable industrial record of service in this key location...service which you are invited to use freely.

NEWARK TIDEWATER TERMINAL, INC.
Port Street, Newark 5, New Jersey
J. A. LEHMAN, *Vice-Pres. & Gen. Mgr.*

BAYWAY TERMINAL CORPORATION
NEWARK TIDEWATER TERMINAL, INC.

"It takes SUPER POWER to haul our Steel Loads 24 hours a day with *Clock-Like Dependability*"

Royle R. Freer, President, FREER MOTOR TRANSFER CO., Chicago

THIS STANDARIZED FLEET of 30 Super Power Whites covers a million miles a year, delivering more than a quarter-million tons of mill and fabricated steel. It operates on a 24-hour-a-day basis and its total annual tonnage figures out to slightly more than 25 tons per truck, per day!

Such a constant flow of extremely heavy loads is positive proof of truck dependability, Mr. Freer points out. Moreover, Mr. Freer—who started in the business with his father 35 years ago—has always insisted on good maintenance. And the performance of his trucks, as well as their appearance, reflect the care they are given. Mr. Freer is a firm believer in White Personalized Service and adopted it early in his modern garage. "Good maintenance saves us money and keeps the earning power of our trucks high by keeping performance up," he said. "With our heavy loads, poor performance can cost us a great deal in running time alone. We could not operate successfully without the clock-like dependability which, with Super Power, we are geared up to maintain."

Mr. Freer's company hauls for the big steel mills in Chicago and Indiana Harbor—hauling mill steel to fabricators and warehouses and fabricated steel to the job. His trucks have hauled the steel skeletons for many Chicago landmarks—28,000 tons for the Chicago Opera House being one of many in Chicago's famed Loop. Freer Whites also hauled 12,000 tons of marble for the Field Museum, the largest marble building in the world. More recently, he hauled large tonnages of steel into Oak Ridge, Tennessee, for a secret project which proved to be the atomic bomb plant. Highway bridges throughout the middlewest, likewise, owe their existence to Freer-hauled steel.

"Our experience with Super Power—especially during the past several years of shortages and extra hard and long service—proves to our satisfaction all the claims you make for it," Mr. Freer said.

THE WHITE MOTOR COMPANY • Cleveland





ROYLE R. FREER, President, Freer Motor Transfer Co., Chicago. *Left:* White Super Power tractor hauling 122-foot girder for bridge across the Mississippi. Weight: 24 tons. Note comparative size of men under the girder.

White PERSONALIZED SERVICE

FOR MORE THAN 45 YEARS THE GREATEST NAME IN TRUCKS

Engineer THE MERCURY "TRACKLESS TRAIN"

deliver MORE tonnage in LESS time at LOWER cost!

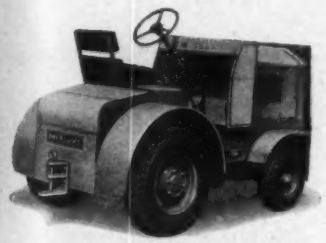
One man or woman can "engineer" the Mercury "Trackless Train" and do the work of many—deliver more tonnage in less time for less cost.

Keep loads rolling because "The Trackless Train" keeps them on wheels, ready for long or short hauls, free of any fixed track. No lost time . . . no wasted motion.

It will pay you to investigate "The Trackless Train" NOW. For complete details on "The Trackless Train" as well as specifications on all Mercury equipment—request Bulletin 201-6.

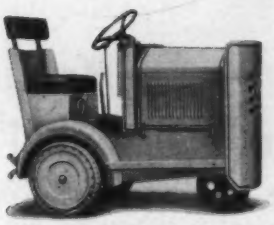


Mercury "Tug" Electric Tractor provides fume-free motive power for this train of Mercury Type A - 310 Trailers.



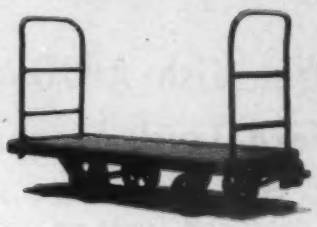
"HUSKIE" GAS TRACTOR

"Huskie" is the word for this powerful, 6 cylinder, 4 wheel tractor. A real work horse—built to haul any wheeled load it might encounter in industry—so compact that it can operate in limited areas.



"BANTY" GAS TRACTOR

Meet the "Banty". Smallest tractor made, yet develops a draw bar pull in excess of 2000 pounds. Stamina, power, and small size make the sturdy "Banty" a favorite with industry.



TYPE "A-310" TRAILER

This all-steel trailer is the burden-bearer of "The Trackless Train." An all-purpose, castor-steer trailer available in wide range of platform and body types. Hundreds of thousands now in use demonstrate the popularity of the "A-310."

FORK TRUCK—"TRACKLESS TRAIN"

When moving materials over 200 feet you can do it more efficiently and at lower cost with the Mercury Fork Truck "Trackless Train". Fork Truck loads trailers; tractor hauls trailers to destination.

THE MERCURY MANUFACTURING COMPANY
4104 S. Halsted Street, Chicago 9, Ill.



MERCURY

TRACTORS · TRAILERS · LIFT TRUCKS

Better Trucks for YOUR Business!



"We Wish All Our Equipment Matched Ford Truck Economy and Reliability!"

"The experience we have had with our fleet of Ford Trucks and cars, both at our factory and branches, has been really marvelous," states Mr. B. Mautz, president, Mautz Paint & Varnish Co., Madison, Wis. *"We would be happy if we could get the same service from our machinery—on the same cost basis and with as few headaches. Congratulations on an excellent product!"*

Merchandise distributors use many types of Ford Trucks to speed the transportation of their products—safely, surely and economically. Where reliability counts . . . where time on the job measures profits . . . Ford Trucks have demonstrated their leading value. No matter what your trucking problem, there's a Ford Truck "tailor-made" to fit your needs.

The new 1946 Ford Trucks, available in a wide range of models, give even greater economy . . . longer life . . . easier maintenance . . . thanks to more than a score of engineering advancements. See your Ford Dealer today.

Ford

ADVANCED ENGINEERING IN NEW FORD TRUCKS

More Economy and Endurance
Easier Servicing

A STILL GREATER 100 HP V-8 ENGINE with NEW Ford steel-cored Silvaloy rod bearings, more enduring than ever in severe service • NEW aluminum alloy cam-ground 4-ring pistons for oil economy • BIGGER, more efficient oil pump and IMPROVED rear bearing oil seal • NEW longer-lived valve springs • NEW improvements in cooling • NEW efficiency in ignition • in carburetion • in lubrication • in ease and economy of servicing operations • And available in all truck chassis except C.O.E. units—the rugged, thrifty 90 HP FORD SIX-CYLINDER ENGINE, with many important advancements.

FORD CHASSIS ADVANTAGES: Easy accessibility for low-cost maintenance • Universal service facilities • Tough, forged front axles • Extra-sturdy rear axles with pinion straddle-mounted on 3 large roller bearings, ¾-floating type in light duty units, full-floating in all others • 3 axle ratios available (2 in 1-ton unit) • 2-speed axle available in heavy duty units at extra cost • Powerful hydraulic brakes, large drums, cast braking surfaces • Rugged 4-speed transmission with NEW internal reverse lock optional at extra cost on light duty units, standard on all others.

FORD TRUCKS

MORE FORD TRUCKS ON THE ROAD • ON MORE JOBS • FOR MORE GOOD REASONS



HOW IT WORKS FOR YOU!

DOUBLE RAYON **. . . a *Fisk* innovation of rayon cord that's twice as husky and far stronger than ordinary rayon tire cord. That's the sensational new development in *Fisk* Truck Tires of 8 ply rating and larger. Now 8 plies do the work of 10 . . . and do it better. Here's how it saves you time and dollars.**

DOUBLE RAYON **is a cord with the *extra heft* to withstand heavy impacts and heat generating friction. With fewer and less serious service interruptions, maintenance costs are cut to the core.**

DOUBLE RAYON **is a cord with the *extra strength* to deliver far more ton-miles over a long life of service, from original tread to final recap.**

Make your next tires *Fisk*—the tire with Double Rayon. Fisk Tire Company, Division of United States Rubber Company.



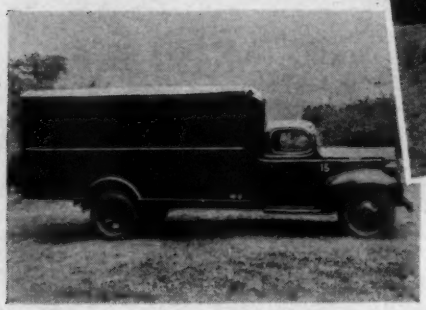
TIME TO RE-TIRE
Reg. U. S. Pat. Off.

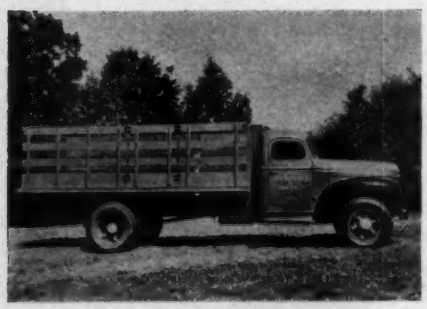
FISK TRUCK TIRES











What type of body for YOUR business?

You know your own special requirements. We know how to meet them with custom-built vans and truck bodies. Improved construction and new materials now combine to produce the best bodies we ever built. Right now it seems as though almost everybody wants a Gerstenslager Body. But no matter how many orders pile up, every job gets the careful workmanship that has given Gerstenslager Bodies their coast-to-coast reputation.

THE GERSTENSLAGER CO.

Wooster, Ohio • Established 1860

TRAILERS AND CUSTOM-BUILT BODIES FOR VANS AND TRUCKS

POWERED for Industry

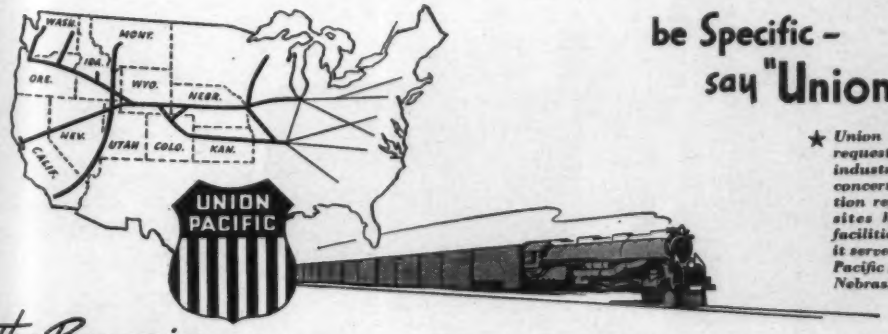


Pictured above is another reason why Union Pacific can maintain fast schedules. It's one of the "Big Boys," 600-ton super-powered freight locomotives designed to meet industry's heaviest demands.

But it takes more than horsepower to keep shipments rolling on schedule. The "know how" of many thousands of trained Union Pacific employees . . . the time-saving Strategic Middle Route uniting the East with the West Coast . . . are *plus* advantages only Union Pacific provides.

Union Pacific traffic experts are located in metropolitan cities from coast to coast. Call on them to assist in solving your transportation problems.

For efficient, dependable freight service—



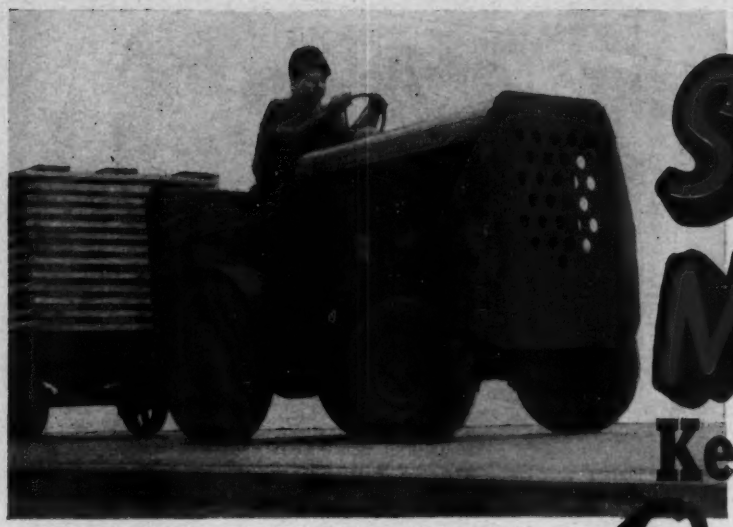
be Specific – say "Union Pacific"

★ *Union Pacific will, upon request, gladly furnish industrial or mercantile concerns with information regarding available sites having trackage facilities in the territory it serves. Address Union Pacific Railroad, Omaha, Nebraska.*

The Progressive

UNION PACIFIC RAILROAD

The Strategic Middle Route



SHOP MULES Keep Materials *On the Move*

HEBARD A14V SHOP MULE TRACTOR

MARINE TERMINALS

STEVEDORES

STEAMSHIP LINES

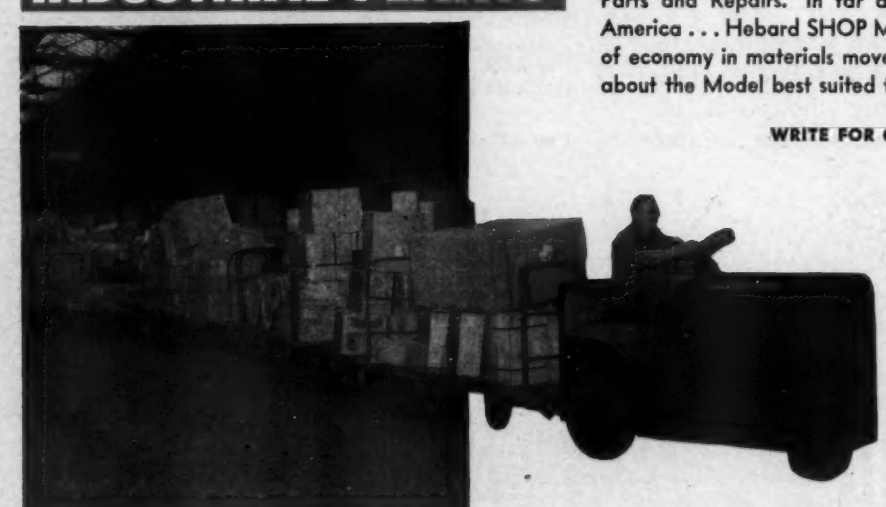
WAREHOUSES

RAILROADS

INDUSTRIAL PLANTS

SHOP MULES haul and push more for less . . . work gets done faster, easier and on time with train-like dispatch. They lower labor costs by shortening-up the time and keeping workmen happy and free from excessive fatigue. SHOP MULES are made in many models, and with many attachments to meet the widest range of working conditions possible . . . all are International Harvester Powered, presenting to Users the greatest, World-wide Service known on Parts and Repairs. In far away lands . . . and all over America . . . Hebard SHOP MULES are performing miracles of economy in materials movement. We will gladly tell you about the Model best suited to your business.

WRITE FOR CATALOG DA



HEBARD A3V SHOP MULE TRACTOR

HEBARD

INTERNATIONAL HARVESTER POWERED

SHOP MULE INDUSTRIAL TRACTORS

W. F. HEBARD & CO. • 2433 S. STATE ST. • CHICAGO 16, ILL.

CREATORS AND MANUFACTURERS OF SHOP MULES SINCE 1918



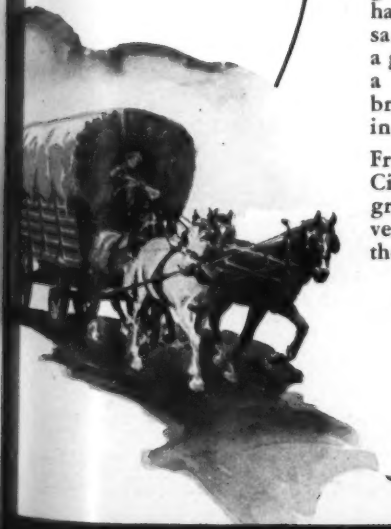
Salute

for a Golden Anniversary

IT was in April, 1896, that the Gateway City Transfer Company of La Crosse, Wisconsin, began business with six people and "seven head of horses and mules." From that small beginning has grown a great corporation which handled over two hundred thousand tons of freight in 1945, with a gross revenue of nearly two and a quarter million dollars, with branch offices in eighteen cities in five states.

From Highway Trailer to Gateway City Transfer go heartiest congratulations on this fiftieth anniversary, an occasion which finds the original equipment of seven horses and mules expanded to 131 trailers, 103 tractors, 57 trucks and 27 passenger cars. In connection with the recent purchase of ten new Highway Tandem Trailers, Eugene W. Murphy, secretary and treasurer, writes, "This is proof of our complete satisfaction with Highway Trailers."

Take a tip from this old established hauling concern, and let your next trailers be "Highways." Write today for complete information on the new Highway Warehousemen's Van, the van of extra cubage, low ton-mile cost, and low maintenance.



HIGHWAY TRAILER COMPANY

General Offices, Edgerton, Wisconsin

Factories at: Edgerton, Wis., Stoughton, Wis., Farmingdale, L. I., N. Y.

Commercial Truck Trailers • Earth Boring Machines
Winches and other Public Utility Equipment

On Every U.S. 16 *Highway*

HIGHWAY *AMERICA'S QUALITY* **TRAILERS**

Coming Up

To Bring Man-Hours Down

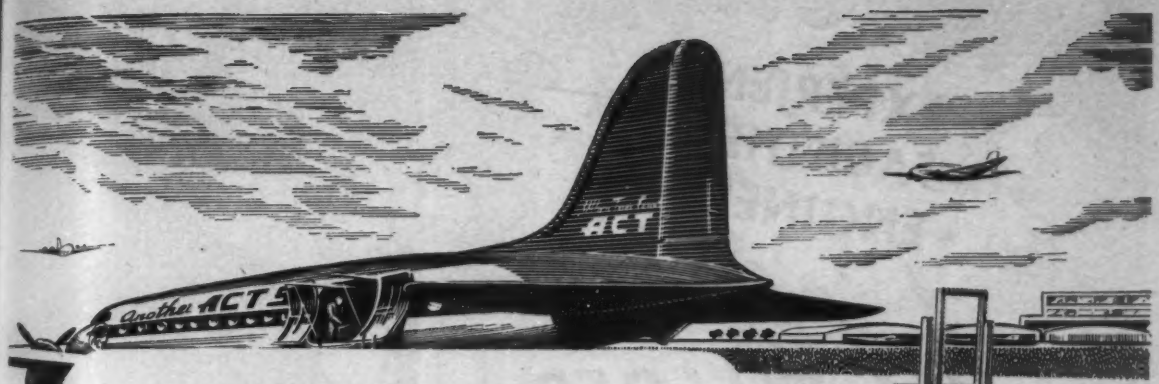
Powering the latest design of Hough hydraulic loader, this Case "DI" or the smaller "SI" Industrial Tractor handles as much material as a dozen men with back-breaking shovels. Not only does the outfit dig, lift, carry and dump; it works also with crane hook or backfiller blade. Choice of buckets to suit the density of material makes it equally at home in hot sand or slag, or clearing streets of snow.

Case Industrial Tractors are built in four basic sizes, with varying wheels and tires to cover an unbroken weight range from 2500 to more than 10,000 pounds. Their extra strength and stability make them ideal power plants for cranes, winches, loaders, street and sidewalk snow-plows, scrapers and bulldozers, rotary brushes, highway and airport mowers. Their extra ENDURANCE keeps them on the job more steadily, hustles schedules, holds down upkeep and reduces investment charges. Your Case distributor will gladly furnish you full information on tractors and on equipment engineered for use with them.

★ CASE ★

In Business to Serve You. Your Case industrial distributor is located and equipped to supply complete service not only on Case tractors and engine units, but on related equipment. His lines are selected and his personnel is trained with your local conditions and requirements in mind. Take advantage of his varied experience in power and equipment applications. J. I. Case Co., Racine, Wis.





SERVICE FOR SALE

To move your goods *where* you want them, *when* you want them—*at low cost*—that's what we mean by ACT service. That's what we're selling, purely and simply.

Actually ACT is streamlined in two directions. First, it saves *whole days* from your shipping time. Second, it cuts large chunks from your costs.

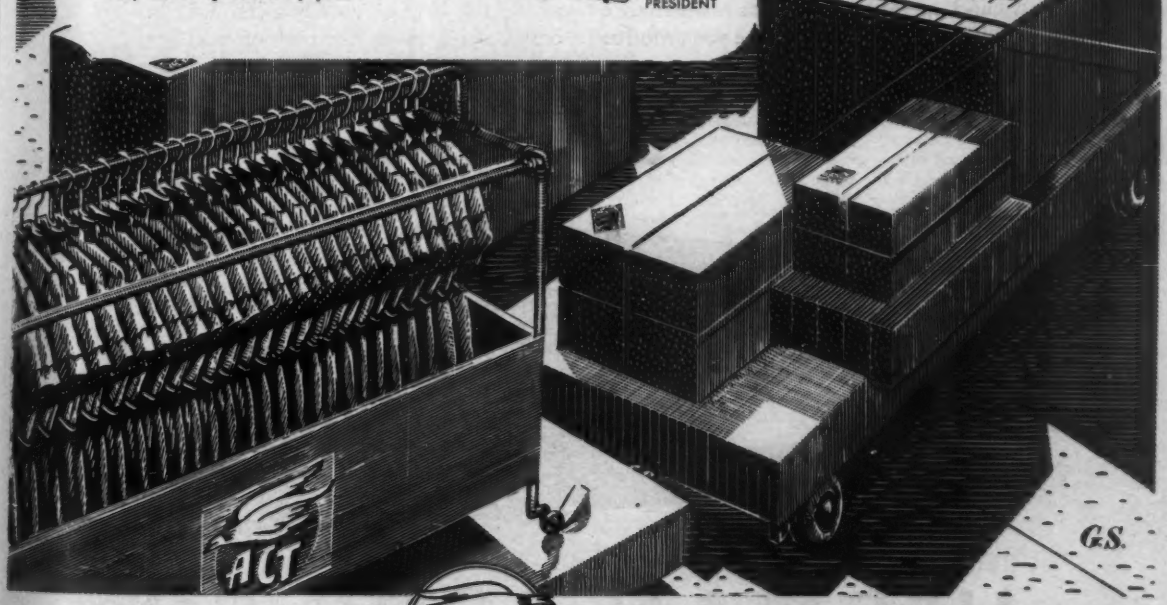
These two vital economies are made possible because ACT is an unusual shippers service organization. It is an *all cargo*, complete charter service—with 24 hour meteorology and maintenance facilities—designed and geared to fly your freight anywhere, with delivery *when* specified by *you*.

Important, too, is the fact that ACT is an *all-inclusive* service. Your freight can be practically anything — from dresses to newspapers — from vegetables to heavy machinery.

Of course, a service of this scope and economy is built around a carefully chosen staff of competent, fully experienced men. These men have proven themselves flying and servicing both military and commercial cargo. Their training, ability and equipment are the best.

This is the type of service that is at your disposal when you ship — the ACT way.

PRESIDENT



WHEN TIME COUNTS ••• ACT

ACT

AIR CARGO TRANSPORT

CORPORATION—A CHARTER CARRIER

EMPIRE STATE BUILDING, NEW YORK 1, N. Y.



ALL-WELDED in an ALL-STEEL

HERMAN VAN TRAILER

HERMAN Van Trailers are NOT custom built on the spur of the moment. They are INDUSTRY DESIGNED . . . thoroughly tested . . . and *built in volume* at mass-production savings.

Years of experience building hundreds of Van Trailers has taught us how to put the most value into All-Steel, All-Welded Van Trailers... that look better, last longer ...and operate with lowest maintenance costs. Quality jobs that make you proud to own a HERMAN.

These years also taught us not only *how* to build them better, but also *what* to build. Herman designers are INDUSTRY specialists. They know what warehousemen need and how to give it to them. In other words, the kind of Van Trailers that can only be built by an organization that has the experience . . . the facilities and the engineering know-how to do a first class job. Consult us about your requirements.

3 Sizes to Choose From



HERMAN BODY CO.

4400 CLAYTON BLVD. ST. LOUIS 10, MO.



"I FOUND a way to save $24,480.00 in my Wastebasket"

"Something caught my eye in the wastebasket . . . a trade journal I had flipped through and discarded. It was turned up to an ad which promised a 46% saving in material handling costs. When they talked about cutting my handling costs that much, well, I wanted to be shown.

"Literature told how this saving could be accomplished simply through the use of a bright, shiny orange and black electric truck called 'Transporter' . . . the miracle truck that lightens life's loads. It was an impressive story. As a result I ordered one, and an A.T.C. Specialist showed up with it to demonstrate what they claimed.

"He piled 6000 pounds of our most unwieldy product on it. Then asked for one of our stenographers . . . and she promptly walked off with the load as easy as she'd powder her nose. Her thumb pressed a button, her hand gently guided it. That's all there was to it. Husky truckers accustomed to a three-man operation moving similar loads were amazed . . . couldn't wait to try this wonder truck that meant for them an end to back-breaking, gruelling toil.

"I was more than sold on Automatic Transporters. They have cut our material handling costs 46% . . . a solid $24,480.00 saved*—the equivalent of $244,800.00 worth of increased volume on a 10% profit basis. That's the money-saving, profit-making opportunity I found in my wastebasket."

Such savings may be duplicated many times over during the life of Transporters . . . may be multiplied many times depending on the size of your material handling operation. Mail the coupon for complete facts.

Remember: Only AUTOMATIC Makes the TRANSPORTER

Transporter
A PRODUCT OF AUTOMATIC
Lightens LIFE'S LOADS

*Case 10 in "Automatic Savings Parade"

AUTOMATIC TRANSPORTATION COMPANY
Div. of The Yale & Towne Mfg. Co.
115 West 87th Street, Dept. D, Chicago 20, Ill.

Please mail me, without cost or obligation, complete facts about AUTOMATIC TRANSPORTER, the miracle electric truck . . . plus *proof* that it has cut handling costs in half.

☐ Have an A.T.C. Material Handling Specialist call.

Company Name.....

By.....*Position*.....

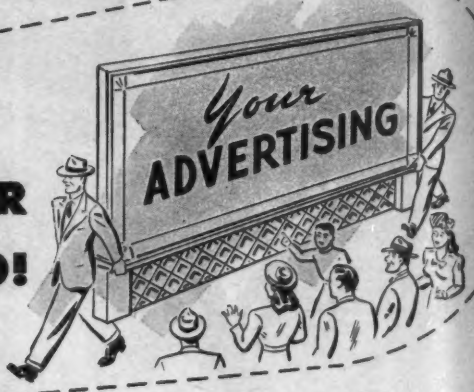
Street Address.....

City.....*State*.....



YOU WOULD HAVE TO PAY FOR THIS ADVERTISING!

(If you wanted it)



YOU WOULD PAY FOR THIS ADVERTISING TOO!

(If you could get it)



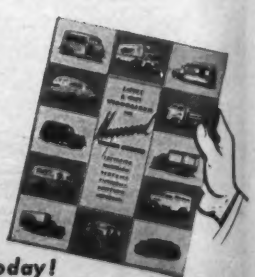
Space on your trucks is FREE . . . USE IT . . .

(And let your trucks pay for themselves in the process)

with

MEYERCORD TRUCK DECALS

Thousands of new trucks will soon be added to America's fleets. They offer acres of advertising space . . . *cost free!* Fleet-owners who sell space on their trucks have established annual advertising values up to $240.00 for side panels alone. The same space on your trucks is worth as much to you. Cab doors, roofs, backs and visors offer additional value too. Use these areas with Meyercord's durable, washable and weather-tested Truck Decals and help your trucks pay for themselves! Trademarks, lettering, product illustrations, all can be reproduced in any colors, size or design. Over-night application saves paint-shop delays . . . and Meyercord Decals are economical for a dozen trucks or a thousand. Send for full details. Address inquiries to Dept. 30-4

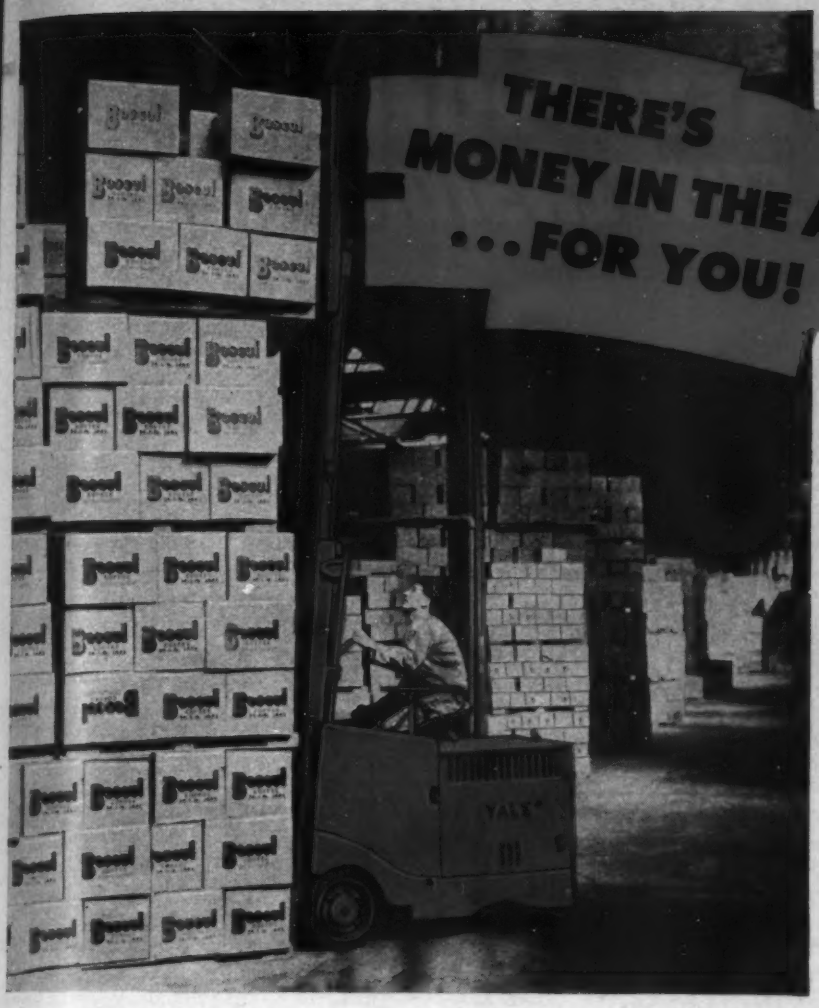


FREE! This Truck Visualizer Will Help You Plan; Send For It Today!

THE MEYERCORD CO.

World's Largest Decalcomania Manufacturers

5323 WEST LAKE STREET • • • CHICAGO 44, ILLINOIS

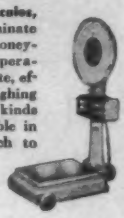




Yale Hand Lift Trucks are ruggedly built for long life—provide easy lift, easy roll, easy steer—take the shorter hauls at a fast clip. Wide range of models and capacities for handling skids, skid bins, and pallets.



Yale Hoists—hand chain and electric models—are efficient time and labor savers that make light work of heavy lifting jobs—conserve worker energy, speed production and maintenance and cut handling costs.



Kron Springless Dial Scales, made by Yale, eliminate excessive time- and money-wasting handling operations, provide accurate, efficient, low-cost weighing and counting of all kinds of materials. Available in all types from bench to crane scales.

Dollars are in the air—in every cubic foot of empty overhead space in your warehouse! But they are within easy reach of Yale High-Lift Fork Trucks. Designed and built to operate smoothly in congested areas, these powerful machines lift, carry, and stack all kinds of loads to the ceiling—fill the air with neatly stored goods. Loads are spotted precisely, items are removed from storage quickly, easily. Thus you avoid wasteful rehandling, simplify inventory control, cut costs.

Let Yale High-Lift Fork Trucks help you erase "muscle money" from your payroll; achieve economies all along the line—in receiving, storage, shipping.

Full details about Yale Fork Trucks, and other cost-cutting Yale Material Handling Machinery, are yours for the asking. Just phone the nearest representative, or get in touch with us direct.

The Yale & Towne Manufacturing Company
4530 Tacony Street Philadelphia 24, Pa.

YALE

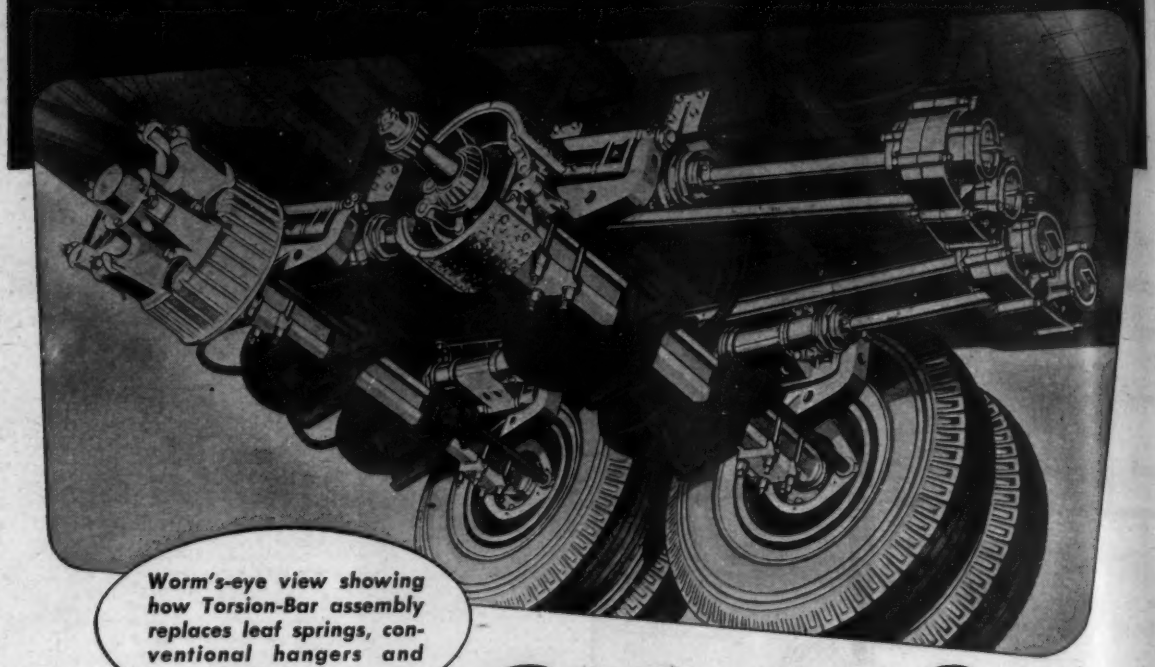
MATERIAL HANDLING MACHINERY

CUTS HANDLING COSTS . . . SAVES TIME . . . SAVES EFFORT . . . PROMOTES SAFETY



HOISTS—HAND AND ELECTRIC • TRUCKS—HAND LIFT AND ELECTRIC • KRON INDUSTRIAL SCALES

THE NEW FRUEHAUF GRAVITY SUSPENSION TANDEM



Worm's-eye view showing how Torsion-Bar assembly replaces leaf springs, conventional hangers and radius rods.

Revolutionary Design!

Road-Tested 2 Years Under All Conditions—Amazing Savings In Maintenance and Tire Cost!

● **PERFECT SPRINGING**—"feather soft" when light—with spring action exactly proportional to the load—**leaf-springs eliminated entirely.**

● **BRAKING SMOOTH AND SURE**—no chatter—no wheel hop—Torsion Bar Springs don't know the brakes are applied.

● **GREATER STABILITY AND SAFETY**—on the Fruehauf Gravity Suspension Tandem the Trailer actually hugs the road on turns. Also, axles ride road contours and bumps—independently of one another—to provide a "sure-footedness" unmatched in any other Trailer. Increases load stability!

● **LONGER TIRE LIFE**—you forget about destructive tire scuffing. Axles "follow the curves" automatically in all normal in-and-out, on-the-highway travel.

● **LOWER MAINTENANCE**—all bearings are lubricated for life. Radius rods, leaf springs, conventional hangers have all been discarded in this revolutionary design.

For complete facts about the performance and construction of this new Tandem, just ask at your nearest Fruehauf Branch for the "Tandem Booklet". Or, if you prefer, a penny postcard will bring this informative "working model" by return mail.



Fruehauf Trailers

A TRUCK IS LIKE A HORSE

World's Largest Builders of Truck-Trailers

FRUEHAUF TRAILER CO., Detroit 32

8 Factories—60 Factory Service Branches

"Engineered Transportation"

EDITORIAL

Problems of the Water Carriers

INLAND waterway carriers and merchant marine operators are confronted with many complex and vexing problems. As even a cursory examination of the contents of this issue will show, these problems are not merely managerial or operational in character, they include also matters that affect national policy, questions of law and of economics, uncertainties with respect to legislative enactments, pending and proposed, which bear upon labor relations, rates and tariffs, the competition of other transportation media, and a variety of other subsidiary difficulties.

Some of the more outstanding of the specific instances that may be cited merit the attention of everybody interested in distribution.

Merchant marine operators, for example, are handicapped by the lack of a clearly defined national policy with respect to what is needed in the way of cargo ships for national security. In the face of current events, ocean tonnage, primarily, is a problem of logistics to be determined by the joint chiefs of staff and, thereafter, those findings will require Congressional action. Because of the unsettled state of international affairs today, our merchant marine requirements transcend purely commercial considerations and have to be appraised in relation to worldwide political and military contingencies.

It will have to be determined also how much of the required tonnage can be employed profitably in commerce in competition with other nations and other forms of transportation. But until our military and naval needs are known and a national merchant marine policy established, deep sea ship operators cannot proceed with plans and projects that will entail large-scale capital investment with any assurance that they will ever be able to amortize their investments.

With respect to the situation that confronts inland waterway carriers, prospects are clouded by competitive pressures, by rates still arbitrarily based on carload freight at approximately 60 percent to 80 percent of rail rates, by heavy transfer costs at inadequate terminals, and by the attitude of a substantial number of industrial and mercantile traffic managers, many of whom seem to be inflexibly railroad-minded.

There is hope in some quarters that the proposed inquiry of the House Committee on Interstate and Foreign Commerce into transportation costs may lead to some adjustment in the present rate structure so as to place inland waterway carriers on a more equitable basis with other transportation services. But this inquiry is not likely to be held for another year, and it is improbable that any major rate changes will be undertaken until sometime thereafter.

Pending legislation most disturbing to water carriers is S. 1349, the so-called Pepper bill, which proposes to make 65c. the wage minimum 120 days after the bill is enacted. The minimum would increase to 70c. after two years, and to 75c. at the end of two more years. It amends the Wage-Hour Act to include seamen on American vessels, which means, as now written, everybody employed on a water carrier, whether barge, boat or ship. The minimum would be imposed on the sustenance provided by the operator, and the statutory maximum work week would be 40 hours, with time and a half for over-time and double time for Sundays and legal holidays.

In view of present precarious international, economic and competitive conditions, particularly with respect to waterway carriers, inland and marine, the introduction and consideration of such legislation in the Senate, tempts one to wonder whether the members of that august body have lost all touch with reality. Certainly, nothing could be more detrimental to the cultivation of American commerce both foreign and domestic, at this juncture of affairs than such a bill which arbitrarily imposes a financial burden that few operators today are able to carry.

In the light of these several factors and others that are discussed in various articles that we have the good fortune to publish in this issue, it is patent that the future is fraught with difficulties both for inland waterway carriers and marine operators. On the other hand, the vital need of water transportation, the probability of increased shipments of agricultural products to Europe and Asia to relieve famine conditions, and the impressive tonnage record that all water carriers helped to establish during the war, encourages the hope that present problems will be ameliorated by time and events and the cooperative efforts of the carriers themselves with responsible government agencies and with the shipping public.

Charles D. Brown

EDITOR

DISTRIBUTION DIGEST

. . . men . . . markets . . . products . . . previews

PREVIEWS...A hidden cost factor in distribution is the expensive and time-consuming business of "checking-in" and "sorting-out" packages, crates and cartons intended for shipment or delivery. Anyone who has watched these operations must have wondered how much they were adding to shippers' overall costs and how much to the retail sales price of goods. Robert E. Wright, Sr., Cushman & Dennison, suggests "color zoning," as a means of reducing these costs. He proposes dividing the country, geographically, into shipping zones, each with its distinctive color or color combination, and the marking of packages in appropriate color to indicate destination. The idea is provocative. We probably shall hear more about it.

● Differences in British and American screw threads increased war production costs by hundreds of millions of dollars. The lack of uniform standards in consumer goods, materials handling, transportation and other fields increased wartime distribution costs tremendously, and adds to the cost of peacetime distribution. The present trend toward standardization in consumer goods is being accelerated as a result of a recent broadening in scope of the activities of the American Standards Assn. to include the establishment of voluntary standards in the consumer goods field. ASA, through a change in its constitution, can now deal with any standardization project deserving national recognition.

MEN...Lyman Hill, president, American Marketing Assn..."The trend of our economy favors distribution 'engineers.' They will be the fair-haired boys of the period which lies ahead."

● C. J. Whipple, Hibbard, Spencer, Bartlett & Co., recently announced a four-point plan to cut the costs of wholesale hardware distribution. Features include: 1. Erection of a warehouse specifically designed to expedite handling of orders by means of a dragline conveyor system. 2. Promotion of heavier "line buying" by retailers. 3. Concentration of purchasing among manufacturers of single-line products. 4. Catalog simplification and reduction in the number of items listed.

● Fenton B. Turck, Turck, Hill & Co..."I recently asked a large chain store operator why he was taking over the function of the independent wholesaler: did he want to gobble up the wholesaler? His answer was a very business like reply: 'I have tried to get the wholesaler to do business in a more efficient way which would actually bring him bigger profits as well as lower the costs of wholesaling. After 12 years experience, we found the only alternative in order to obtain efficient wholesaling service was to establish our own wholesale operations with modern methods of handling, warehousing, accounting and service facilities.' " We may eliminate the wholesaler, but not the function of wholesaling, as the "chain" and the "co-ops" have learned.

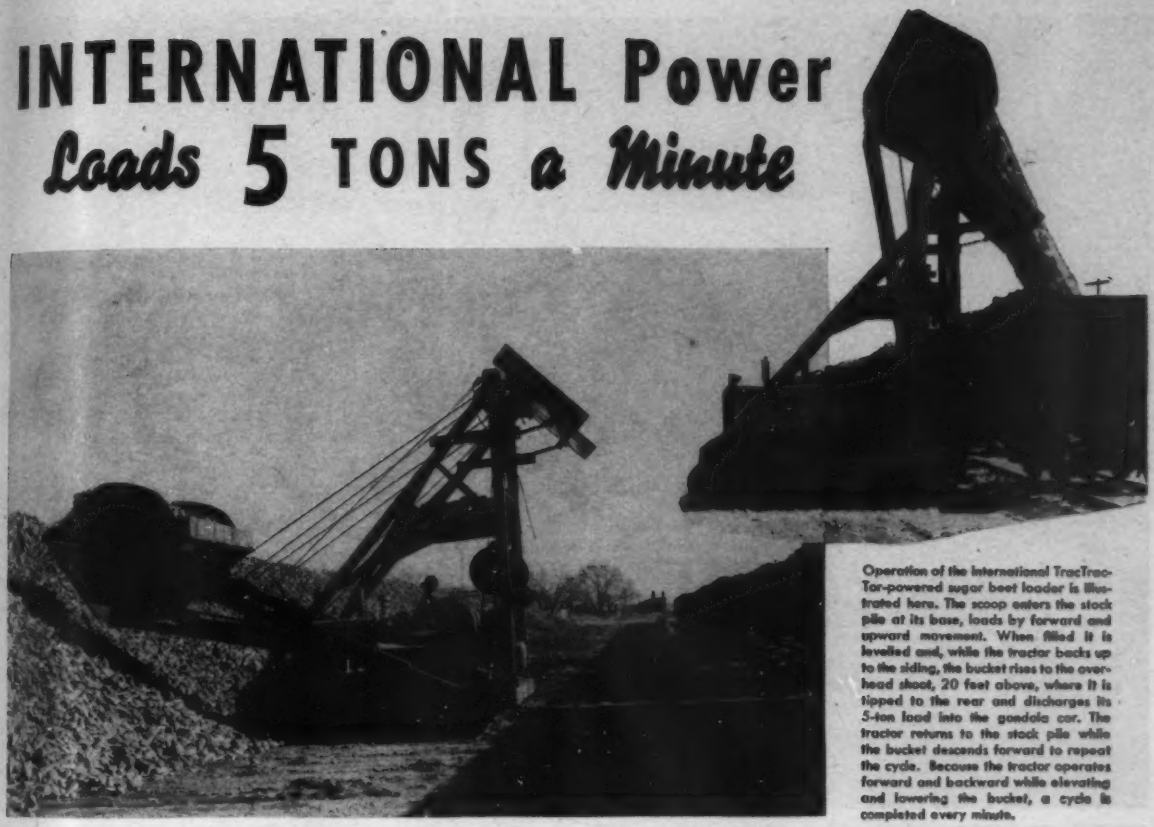
MARKETS...A new plywood molding process, "lap-ply," which at greatly reduced cost, it is said, permits the forming of thin veneers of overlapping wood to conform to any compound or curved surface, may soon be accessible to industry. The new process is the invention of Eugene O'Hare, technical director, Casein Co. of America, a division of the Borden Milk Co.

NEW PRODUCTS...The standard "handibelt" is an all-purpose inclined, declined or horizontal portable belt conveyor which is said to be suitable for handling bags, boxes, crates, cartons or commodities. "Handibelts" can be used, end to end, in any number to form a continuous conveying system. For details, write Standard Conveyor Co., North St. Paul 9.

● A new material, "chem-rock," for resurfacing and patching concrete, brick, or tile floors is now on the market. The material is said to require the addition of water only and can be trowelled to a smooth, dustless finish. Details may be obtained from Rock-Tred Corp., 629 W. Washington St., Chicago 6.

● Firms shipping food by freight or truck may be interested in a new fibreglas insulating blanket designed for use in connection with shipments of frozen foods in l.c.l. lots and for warehouse deliveries when refrigerated trucks are not available. The duck or vinyl-coated styles are available with waterproofed linings. For particulars write Aeronautical Supplies, Inc., Empire State Bldg., New York.--D.J.W.

INTERNATIONAL Power *Loads* 5 TONS *a Minute*



Operation of the International TracTrac-Tor-powered sugar beet loader is illustrated here. The scoop enters the stock pile at its base, loads by forward and upward movement. When filled it is levelled and, while the tractor backs up to the siding, the bucket rises to the overhead chute, 20 feet above, where it is tipped to the rear and discharges its 5-ton load into the gondola car. The tractor returns to the stock pile while the bucket descends forward to repeat the cycle. Because the tractor operates forward and backward while elevating and lowering the bucket, a cycle is completed every minute.

INTERNATIONAL TD-18 TRACTOR Loads 50 Cars Sugar Beets Daily

By scooping up, lifting, carrying and dumping 5 tons per minute, an International TD-18 TracTrac-Tor loads a 20,000-ton stock pile of sugar beets into freight cars at the rate of 50 cars per 8-hour day near Mullen, Nebraska. This is accomplished with a newly developed front-end overshot scoop bucket of 5-ton capacity mounted on the tractor.

60 Feet from Stockpile to Siding

The automotive type transmission of the TD-18 permits movement of bucket and tractor simultaneously. This accounts for the speed with which this tremendous materials-handling job is done across the 60 feet separating the stock pile from the rail siding. Lifting the five-ton load twenty feet during each trip emphasizes the power and stamina of this International Diesel Tractor.

Mobile Power for Many Uses

Application of International Tractors to materials-handling problems is simplified by the many different tractor-mounted shovels, scoops and cranes designed for them by equipment manufacturers. Near you there's an International Industrial Power Distributor who can supply International Tractors, Power Units and matched equipment for materials-handling and other uses. Call on him now.

Industrial Power Division

INTERNATIONAL HARVESTER COMPANY
180 North Michigan Avenue • Chicago 1, Illinois

Listen to "Harvest of Stars" Every Sunday, 2 P. M. Eastern Time! NBC Network!



TracTracTors



Power Units



Wheel Tractors

INTERNATIONAL Industrial Power



THE United States of America having twice neglected its merchant marine on the basis of laissez-faire economics has twice in a generation been forced under threat of attack and possible disastrous defeat to make good in a matter of months the neglect of years. The result in each case, following the final victory, has been an unassimilated surplus of shipping.

Our would-be solution following World War I was more of the same laissez-faire economic doctrines which were the original cause of the difficulty: sell the surplus in a liquidation process designed only to salvage the maximum immediate dollars. Ships were sold at the best prices immediately obtainable, and at constantly reducing prices, irrespective of what happened to the investors in the surplus ships, until no price could be obtained for the remainder other than the price of scrap steel.

The debates in and before the Senate and House Committees during the 18-month consideration of the current Ship Disposal Act indicate a lack of a clearly thought-out long term policy among the bill's framers and supporters. Only three purposes seem at all clear:

1. Liquidation prices must be well below the war-time cost of building the fleet.

2. There must a legislative "floor" under disposal prices so that original purchasers will not be discriminated against.

3. The "floor price" should represent as nearly as possible the postwar foreign cost of building, so as to induce the maximum American participation in liquidation purchases as well as to attract foreign purchases.

The basic deterrents to a full-blooded American merchant marine are the important discrepancies between American and foreign construction and operational costs, both arising from the higher living costs and living standards in the United States as compared with other maritime countries. It should be pointed out perhaps that the discrepancy is something beyond the difference in living standards. It represents, in addition, a discrepancy caused by a subsidized price structure in a protected economy.

One theory understood to be in back of setting a legislative "floor price" on estimated foreign postwar construction cost was to overcome one of the two deterrents mentioned above. It was clearly necessary as a means of encouraging maximum sales both to American investors and foreign investors.

So far so good. But unless this is backed up by a program of long-term support for American investors, based on a clearly thought-out understanding of what we are trying to accomplish, of what our national interest calls for as a long-term program, it will prove futile.



The most convincing and fundamental reason for an enlarged American-owned and American-operated merchant marine is national security. It is submitted that a principle to guide our merchant marine policy can be bottomed on this ground only. Is it not time that we approached the problem from an actuarial insurance standpoint? We should insure our national safety. The greatest navy and air force in the world are useless without the necessary supply of cargo ships.

Our Merchant Marine Increases NATIONAL SAFETY

By GEORGE E. TALMAGE, JR.

Special Assistant to Acting Administrator
War Shipping Administration

A ship represents at any purchase price a capital investment that must be amortized over a considerable period of years. The strong market in freights that may be expected for two or three years after the war will inevitably weaken to a point where the American operator, unsupported in direct or indirect ways to overcome the handicaps of higher operational costs caused by our higher standard of living and subsidized price structure, cannot hope to survive. Without such support, investment by other than the selected "chosen instrument" carries is inevitably limited. We will at best see a certain temporary absorption of surplus ships under the charter provisions of the Disposal Bill, with the inevitable return of the ships to the government by the charterers as soon as the world freight markets weaken.

There has been much public conversation as to the portion of our overseas commerce that it is desirable to have move in American bottoms. Except as wishful thinking it seems unimportant unless and until a rule can be based on a clear principal of national self-interest. What should be the principal?

Let us disregard for the moment the importance of having a merchant marine from the standpoint of national defense and safety, and consider the subject from the standpoint of its basic economics. If we wish to export shipping services we must expect to take payment in imported goods or services. If we decide that we should export a greater relative amount of shipping services and, in consequence, import a relatively smaller quantity of shipping services, we must inevitably take the payment in goods or other services than shipping. If no other services or "invisible" imports were in the picture, carrying more than half of our overseas trade in American bottoms would mean a so-called "adverse" trade balance in goods. The feeling that this would necessarily be bad for our national economy rests more on prejudice than logic. The theory that a nation profited by a "favorable" balance of trade in goods was exploded years ago, if it was ever seriously entertained by thinking economists. If the "favorable" balance continues long enough we find that we have not been selling the surplus goods but simply giving them away.

Persuasive arguments have been advanced that an American-controlled merchant marine is essential to assure American exporters and importers fair access to world markets. This implies the necessity in time of peace that shipping be American-owned.

The most convincing and fundamental reason for an enlarged American-owned and American-operated merchant marine is national

(*Continued on page 72*)

From what traffic managers say, there is going to be a definite expansion in the inland waterway system and much more tonnage of all kinds can be expected. River carriers say they are planning to move not only more package or merchandise freight but also more bulk goods.

A Survey of Potential River Traffic



By JOHN H. FREDERICK
Professor of Transportation

and MADISON LIMMER
Research Assistant in Transportation
College of Business Administration
University of Texas

Left: Barges carrying scrap iron and dry cargo are towed by steamer.

Below: Covered barges out of Memphis carry coffee and window panes.



A FEW months ago a very interesting series of personal interviews with traffic men was conducted from the Great Lakes to the Gulf of Mexico throughout the Mississippi Valley. The purpose of these interviews was to arrive at some idea as to the potential for inland water transportation in this particular part of the United States.

In all, 157 traffic men were interviewed in a large number of different industries. Of this group, 107 stated that they intended using water transportation in the future; 36 were of the opinion that water transportation did not fit into their marketing or distribution plans; and 14 were uncertain as to just what they might do. Table 1 gives the statistical summary of these interviews.

Some interesting facts about what the inland waterway carriers may expect in the way of traffic in the next few years came out of the survey. These may be summarized as follows:

1.The general consensus is that inland water transportation has not begun to get the business that can be expected when times get back to normal. The water carriers interviewed appeared enthusiastic about the outlook. They are planning to move not only more package or merchandise freight, but also more bulk goods. While the Ohio River has more barge traffic than the other waterways, the Illinois River into Chicago is being improved to such an extent that traffic men in that city are beginning to think more about how they can fit water transportation into their businesses.

Merchandise freight has been developed to a high degree on the Ohio River because of the activities of the Mississippi Valley Barge Lines which have really worked in that area. Of course, during the war, package freight decreased to practically nothing but both the Mississippi Valley and the Federal

(Continued on page 74)



Dock equipment handles structural steel from ships to cars.

The question is constantly asked why our water tonnage has diminished, especially on the Great Lakes. Certain basic reasons are evident, one being consistent railroad rate reductions made at great losses to themselves with severe 4th-section rate cuts on the basis of meeting water competition. Along with these reduced rail rates have been increased vessel operating expenses, as well as higher terminal costs at all lake ports.

Problems and Possibilities In Lake Shipping

By MAXIM M. COHEN

Manager, Marine Sales
North Pier Terminal Co.
Chicago

THOSE of us actively engaged in the transportation and handling of commodities over the Great Lakes, as well as connecting waterways, face a questionable future.

In the Great Lakes we have one of the largest bodies of navigable waterways in the world, located almost in the midst of our great nation; their shores touch some of the greatest cities in our country, and support more than 40,000,000 people with relatively little interchange of commercial commodities. Certainly, the early French voyagers who visioned the Great Lakes as continental - connecting - links would be surprised if they were to come back into our present age and see how little use is being made of these great natural facilities.

Tonnage figures for the lakes reflect enormous volumes of highly specialized bulk commodity movements. Here we find a very close coordination between specially designed lake vessels and docks.

There is no comparison between these specific movements and any others anywhere else in the world. Our ingenuity and huge investments in docks and equipment have made possible the movement of bulk shipments in extraordinary volumes at costs that cannot be met by any other type of surface transportation. These bulk movements of iron ore, grain, coal, limestone, and other raw materials are essential to the prosperity of the midwest, and also are the basic reason why huge processing plants are feasible. Without this low cost water transit, these land investments would be almost worthless.

The close of the war has seen a distinct change in the size of bulk-carriers. Prior to the war, there was a mixture of medium and rather large size vessels, but, the creation of new vessels carrying over 15,000 tons each, has changed the complexion of such movements, with the result that medium sized carriers up to 8,500 gross tons are no longer economic. This may come as a shock to many that have watched this change, but the heavy operating costs of the smaller vessels have made them obsolete.

Bulk cargos of iron ore, grain, and other commodities will have to

A large cargo steamer in Great Lakes service passes skyline of Buffalo, N. Y.



adjust themselves to the size of the new lake giants. The practical impact of this transition has resulted in the elimination of a large quantity of smaller vessels. The size of these large carriers may handicap shippers unable to take advantage of their huge capacity but will result in greater economies to those able to use them.

A Note on Canals



HISTORY records that the first canals were built for purposes of irrigation. Their enlargement to form navigable channels is assumed to have been an afterthought. While the royal canal of Babylon, so enlarged about 600 B. C., is among the earliest known, canals have been used in India both for irrigation and transportation since remote antiquity.

The ancient Egyptians, Greeks and Romans constructed inland as well as ship canals, which, like their viaducts, were of imposing proportions. Charlemagne in the 8th century of the Christian era began canals to join the Rhine and the Danube. In China, the famous Grand Canal, joining two rivers 500 miles apart, was built in the 13th century. Changes of level were surmounted by drawing the boats up inclined planes.

Several canals were built in Europe between the 8th and the 15th centuries. In 1481, two virtually forgotten Italian engineers are credited with the invention of locks for passing boats from one elevation to another, which revolutionized engineering and construction practices in canal building. A similar development at about the same time is attributed to engineers in Holland.

In 1700, Peter the Great of Russia began the extensive system of canals which connect what is now Leningrad with the Caspian Sea, affording continuous navigation for 1,434 miles.

In England, during the last half of the 18th Century there was as great a furor over canals as in the second quarter of the 19th century there was over railroads. The English canals for the most part were the private property of individual promoters or of stock companies. In France, on the contrary, canals were built as permanent public works, owned and operated by the national government. Less numerous than the English canals, those built in France were standardized to a large extent as to width, depth and style of locks. They also were toll-free. The over-supply of canals in England late in the 18th century led to a large number of business failures which stopped construction work and caused political and economic disturbances. In France, excessive taxes produced similar consequences.

It was not until 1793 that the first canal in the United States was built around the falls of the Connecticut River at South Hadley, Mass. The canal-building era in American transportation did not open fully until about 1820. By that time the steamboat had demonstrated its practicability. While rarely used on canals, it increased the need of canals to connect the larger waterways. The famous Erie Canal, completed in 1825, was an immediate and conspicuous success. Plans for other canals multiplied, and before the middle of the century there was an imposing network of canals and canalized rivers concentrated along the Atlantic Coast and the Ohio River Valley.

As historians have pointed out, this canal network was an outgrowth of the commercial competition among the chief seaboard cities for a dominant trading position with the growing West. New York with the Erie Canal secured the major victory. The physical difficulty of building canals in other areas, helps to explain New York's success. Nevertheless, during the second and third decades of the 19th century 5,000 canals were projected and 3,000 were built in the United States. Only about 39 of these were in commercial operation at the close of the century. Most of the abandoned ones had succumbed to rail competition.

Fortunately for this country, during the past 25 or 30 years, the federal government appropriated large sums for the improvement of our inland waterways. The practical value of this was manifest during World War II. Without our extensive intra-coastal waterways system the movement of the enormous tonnage of raw materials and wartime freight would have been utterly impossible.

An important fact in this connection is that without inland water facilities and the low transportation costs made possible by interchange of freight at water-rail terminals, a vast tonnage would never reach the railroads. Many traffic men believe it would be a wholesome thing for this country if the interchange of water and rail traffic were more fully developed under proper regulation. This is one of the many current transportation problems that shippers and carriers will have to face and solve in the interest of better distribution.—Charles Downes.

Over a long period of years, many other transitions in water carriage have taken place on the Great Lakes. These lakes were one of the early battlegrounds over which eastern and western carriers fought for connecting tonnage. The western lines expanded their rails by the use of vessels to the Buffalo frontier and the major eastern trunk lines radiating from the Niagara frontier likewise operated extensive fleets of tonnage to western lake ports. This rail competition became so intense that it was deemed necessary to eliminate it and legislation to that effect was finally enacted.

These formerly owned railroad vessels were sold to private carriers who, through a period of years, operated with little financial success. Other independent carriers operating in the common charter field, met with similar ill luck. Short haul vessel carriers who operated with tonnage in Lake Erie, and other local movements, saw the steady process of rail competition increase, and eventually heavy terminal costs caused them to fade out of the picture.

The net result has been that today there is no common carriage, as generally understood on the Great Lakes. There is some talk about a merger of two of these former independent companies to afford some lake transportation, but these plans have yet to be put into effect.

Direct Transit

Certain other lake carriers who operated in the automobile business are contemplating new services to carry unboxed automobiles and it is reasonable to expect that their vessels will be adapted to the trade.

Detroit, being the largest producer of automobiles in the world and, located on direct transit for Great Lake shipments can adapt itself to such movements. However, if certain rail adjustments are made, it may result in this lake tonnage being curtailed.

Before the war, we had a volume of miscellaneous iron and steel products, as well as other movements that made use of several

(*Continued on page 76*)



Washington Expects Increased Water Traffic

By ARNOLD KRUCKMAN
Washington Correspondent

o o o

Improvements in rivers, harbors and canals now under way, plus augmented shipments of agricultural products to Europe and Asia to relieve famine conditions held likely to tax all transportation services until the end of 1947.

THE two billion dollar undertaking which was provided for in the Flood Control Act of 1944 to improve the channels of inland waterways is now actually under way. The Army Engineers have started on the job of making the present 9-ft. navigation channel on the Mississippi, between Baton Rouge, La., and Cairo, Ill., into a 12-ft. channel. Washington considers this 700-mile operation as the greatest of its kind in history. It will cost over $200,000,000, and will take several years to complete. The engineers are engaged in the opening phases of bank stabilization, involving another set of barges and boats, a revetment program, various crossovers, and the primary object of keeping the silt out of the channel. From the standpoint of technology, the engineers regard this enterprise, in the great alluvial plain between Cairo and Baton Rouge, as one of the most fascinating challenges that has ever confronted their profession.

Concurrently, there are under way surveys, studies, and the preparation of plans, to improve the authorized 9-ft. channels in the Mississippi from Cairo to Minneapolis, and from Cairo to Pittsburgh in the Ohio River. Engineers also are at work on the improvement of the cut-off canal at the Chain-of-Rocks, at St. Louis; and the preliminaries are in progress to make a 12-ft. channel between Grafton and Lockport, on the Illinois River. Chester C. Thompson, the dynamic head of the American Waterways Operators Assn., regards the activities as foreshadowing a great program of postwar plans which will increase the usefulness of navigable rivers and intercoastal canals in all sections of the country.

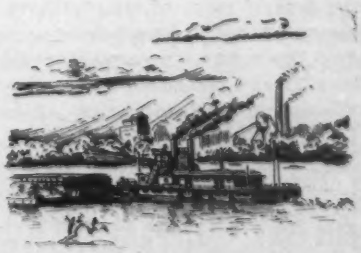
Green Light

The green light was signalled by President Truman on Feb. 18 when he signed Senate Joint Resolution 105, now known as Public Law 300, which authorized Army Engineers to proceed with the rivers and harbors projects scheduled to be undertaken after the termination of the war. There have been so many emergency appropriations, as well as piecemeal appropriations, in addition to the regular appropriations, to speed the work of river improvements, that it is not yet quite feasible to present a detailed report of the various activities under way.

Regular appropriations provide adequate funds for maintenance of waterway facilities in all areas; specific new projects include $5,000,000 for St. Marys River, Mich.; New York and New Jersey channels, $4,000,000; Missouri River, above Kansas City, $2,500,000; an intracoastal waterway between Apalachee Bay and the Mexican Border, $2,000,000; Neches and Angelina Rivers, Texas, $1,500,000; Missouri River, from St. Louis to Kansas City, $1,500,000; Sacramento River, Cal., $2,000,000; various sums for the Columbia River, affecting Oregon, Washington, and Idaho. For the Snake River, in Oregon, $500,000. No specific sum has yet been reported for the improvement of the Cross-Florida Barge Canal, although the House Appropriations Committee recommended $15,000,000.

The over-all total indicated for maintenance, operation and care of existing projects on rivers, canals and other works of navigation, including the continuation of routine operations, approximates $100,000,000. Incidentally, there is a substantial total included in purely flood control projects, which will be primarily spent for the improvement of navigation. Later in the year it will be possible to untangle the essential figures, which will make it possible to report a clearer picture of the actual improvements and what they will cost.

It is often pointed out that the



completion last year of the Kentucky Dam near the mouth of the Tennessee River, and the filling of the reservoir, has made it possible for barges of 9-ft. draft to come up from the Ohio, and traverse the Tennessee, with freight to Knoxville, a distance of 650 miles. The Tennessee Valley is now able to send its products by waterways into the Ohio and Mississippi Valleys. It also is a matter of pride to the Army Engineers that lake navigation, through the Soo locks, will be swifter and easier when the work now in progress at Sault Ste. Marie, Mich., near the MacArthur Locks, is completed during the early part of this year.

St. Lawrence Seaway

The St. Lawrence Seaway project, which is not endorsed by water carriers, late in February was urged upon Congress by the State Department, particularly by Undersecretary Dean Acheson, the stormy petrel of the Department, whose sociological ideas and ideals have been under fire from many quarters. Mr. Acheson wants the nation to spend $300,000,000 on the program because it will open an additional line of navigation oceanward as well as 2,700 miles inland; but there is much speculation in the Capital concerning the true significance of the potential supply of "large and cheap resources of dependable power." It is proposed to make a channel of 27 ft. from Duluth, Minn., to the Atlantic ocean, dredging 260 miles. Presidents Coolidge, Hoover, Roosevelt and Truman have approved the plan. It seems unlikely that it will get very far in the immediate future.

Secretary Krug

The Missouri River Authority, the Columbia Valley Authority, and the general scope of the Authority idea, also not endorsed by waterway operators, presumably has been given some added strength by the appointment of Julius Albert Krug, as Secretary of the Interior. Mr. Krug, an intimate of David Lilienthal, came into the Federal Government by way of the TVA. He frankly believes in public power development, and in Authorities, and will be in a powerful spot for weal or woe, with much influence directly on the MRA and CVA. But he convinced the Senatorial Committee, as he had convinced others before, that he is essentially a realist, not a crusader, and that he can easily be convinced in any circumstance that is logical and reasonable. It is a sincere conviction among professional observers in Washington that Krug's relation to problems affecting waterways will be sane, equitable, and unemotional. The President's support of the general idea of Authorities has been cautious, and not very comforting to the authority-minded.

Of legislation pending, apparently the most disturbing to waterway operators is S. 1349, the so-called Pepper bill, reported favorably by the Senate Education and Labor Committee, which will make 65c. the wage minimum 120 days after the bill is enacted. The minimum would increase to 70c. after two years, and to 75c. at the end of two more years. It amends the Wage-Hour Act to include seamen on American vessels, and means also, as now written, every one employed on an inland vessel, either barge or boat. The minimum would be superimposed on the sustenance provided by the operator without giving the operator credit for the sustenance. The statutory maximum work week would be 40 hours, after which employes would be paid time and a half for over-time. There also apparently would be double time for holidays and Sundays. The proposed amendment as written would exempt seamen from the 40 hour limitation, but there is a difference among those experting for the waterway operators in the Capital whether or not the exemption would apply to those employed on inland waterway carriers. The amendment apparently is not sufficiently clear to make its purpose plain even to the Senators who reported it out of Committee.

Surplus Engines

More than $12,500,000 worth of surplus marine diesel engines have been sold for export and domestic use at an approximate overall recovery rate of 70 per cent, the materials disposal section, United States Maritime Commission, announced recently.

With the cooperation of diesel engine manufacturers, continued sale of surplus diesel engines to ship owners, manufacturers, engine dealers, and exporters through established trading channels is accounting for an average monthly sale of $1,000,000.

Litigation Likely

The bill probably will be enacted, since the Senate seems to be carrying the ball on this bill, and the House is doing the same on the "fact-finding" bill. These arrangements are common, and are designed to distribute the outside pressure between the two branches of Congress. It will be necessary for the inland waterway operators to make certain that the 40-hour week limitation exemption also definitely applies to employes of inland waterway operators; the clarification must now be secured by an amendment which must be introduced from the floor of the Senate when the bill comes up for discussion and enactment. There also is an exception in the application of the 40-hour week when the industry is seasonal for periods not exceeding 14 work-weeks per calendar year; or when agreements are reached by collective bargaining for not more than 1,000 hours in 26 weeks, or 2,080 hours in 52 weeks. Wage suits, including accrued claims, may be brought by an employe any time within two years, if the bill becomes law.

It is generally assumed the bill as written will require considerable litigation for final definition. Several powerful pressure groups are striving to turn loose a barrage of appeals upon the Senate to send the bill back to the Senate Committee on Education and Labor for public hearings which were omitted during the recent consideration. This action, if successful, would indefinitely stall action.

Other Legislation

The other legislative action is HR318, which has been passed by the House authorizing the Committee on Interstate and Foreign Commerce, headed by Rep. Clarence F.

(*Continued on page 77*)



YOU + care = perfect shipping

Prevent loss and damage • **Shippers Advisory Boards**

April is P.S. PERFECT SHIPPING MONTH

EMPHASIS on perfect shipping should not be confined to one month. Careful packing, handling, transportation, warehousing, insurance coverage, service and maintenance in all of their forms are needed every day and every month throughout the year. Every business is dependent on them because all firms, industrial and mercantile, are shippers as well as receivers.

Bad shipping causes clots in the arteries of commerce. Good shipping increases the circulation of trade. Good shipping expedites distribution, satisfies customers, reduces claims and minimizes losses.

Good shipping practices are a vital concern to every type of carrier. Packing and handling methods are just as important to the airlines and the water carriers as to the railroads or motor truck operators.

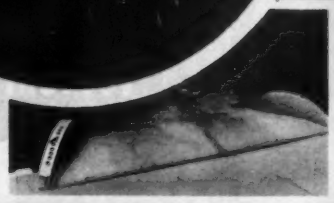
Because it is so imperative that shippers and carriers should cooperate for better shipping we suggest that they can do so, if they will, as industrial groups and as carrier groups, through joint or separate committees of their several associations with a special committee of the National Assn. of Shippers' Advisory Board to explore ways and means of simplifying present shipping methods and practices so that uniform standards may be established to make distribution more efficient and economical for everybody.

LOWER DISTRIBUTION COSTS THROUGH BETTER HANDLING

Handling and transportation are inseparable and indispensable twins of distribution. Nothing, from raw material to finished product, can be distributed without being handled both before and after it is transported. Better handling requires sounder packing. Good handling and good packing speed up transportation; minimize insurance costs; keep down storage charges, and facilitate marketing operations, all of which tend to make faster capital turnover possible. Thus, better handling and packing help to improve all other phases of distribution.

RAIL





Handling equipment travels from dock to boxcar over the steel bridgeplate.

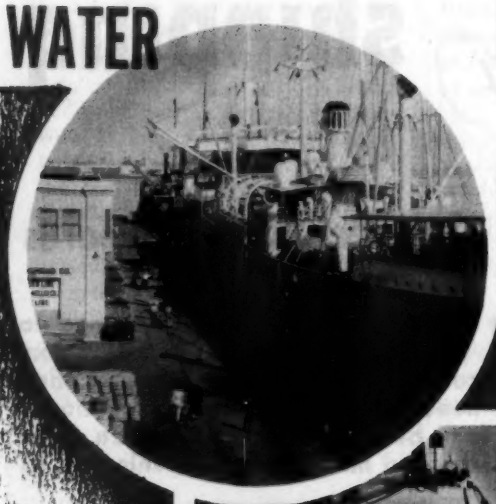


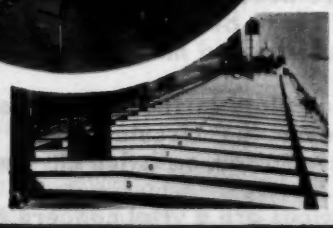
Pallets move from boxcar to warehouse door over a pair of roller conveyors.



Wire spools can be transported and loaded by one man and a fork truck.

WATER





Design of ore ship and bucket makes possible mass production unloading.



Vertical conveyor belts are used to unload bananas from the ship's hold.

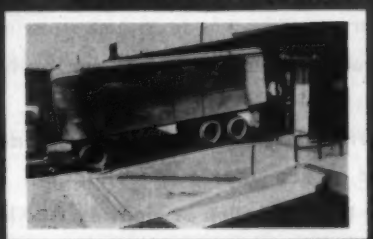
P.S. PERFECT

HIGHWAY





One man can load a ton in 10 seconds with a mechanical elevating endgate.



Truckbed height can be governed with the hydraulic adjustable loading ramp.



Coordination of truckbed and loading platform levels increases efficiency.



Loading docks must be wide and strong enough to hold mechanical equipment.

AIR





Special asparagus cartons weigh two pounds less than similar containers.



The "flying icebox" maintains freshness of flowers, foods and chemicals.



Tractor cranes facilitate the loading of boxes containing heavy merchandise.

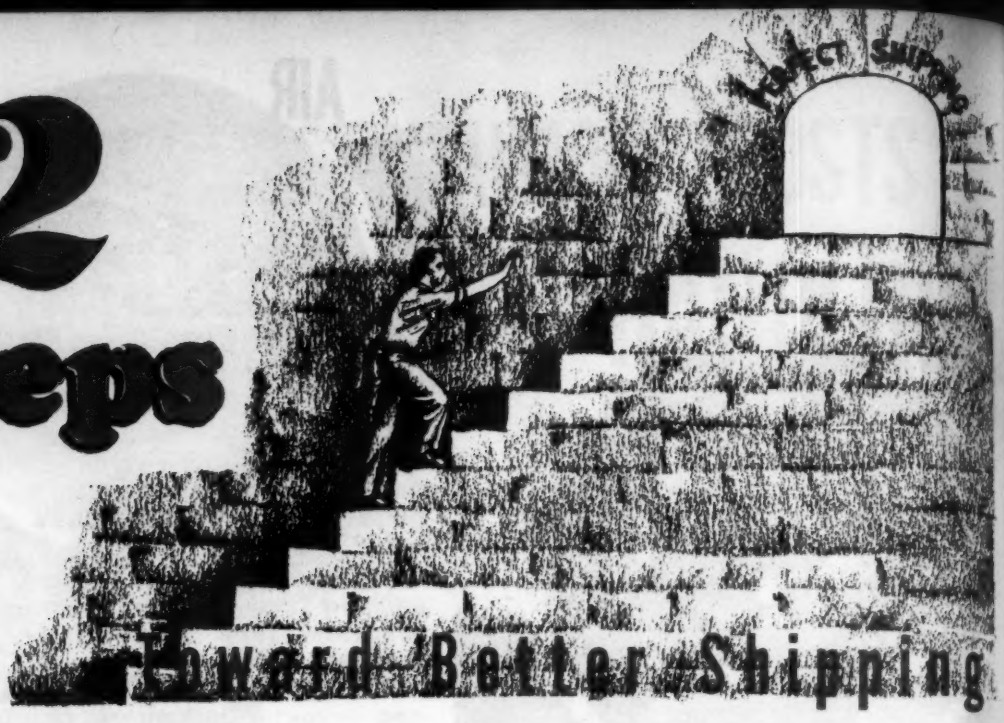


High cargo hatches are reached easily when a fork truck and pallet are used.



Truckbed and plane floor heights are standardized for easier load transfer.

12 Steps



Simplification and standardization of methods and practices are necessary for better shipping. Twelve things that would contribute immeasurably toward more efficient and economical distribution are:

- **Establishment of standardized claims forms and procedure by all carriers.**
- **Simplification of freight rates by all carriers.**
- **Clarification and simplification of liability insurance coverage both for shippers and carriers.**
- **Modernization of warehouses and terminals for better mechanical handling operations.**
- **Establishment of uniform heights for all new loading docks, box cars and trucks constructed on and after a specific date.**
- **Uniform state laws for the regulation of highway traffic, the size and weight of vehicles and the taxes and fees to be levied thereon.**
- **Standardized dimensions for box cars with wider doors for mechanical loading and unloading.**
- **Trucks designed so handling equipment may be used on them for loading and unloading. Manufacturers of trucks, cargo planes and handling equipment should meet and establish uniform standards.**
- **Establishment of standard operational dimension points and load capacity factors for materials handling equipment.**
- **Simplification and standardization of the size of pallets.**
- **Removal of commodity rates on empty pallets.**
- **Establishment of regional centers for pallet pools.**

APRIL IS PERFECT SHIPPING MONTH

Unit Load Freight Container Cuts Handling Costs

By LEATHAM D. SMITH

President
L. D. Smith Shipbuilding Co.
Sturgeon Bay, Wis.

New unit load containers for l.c.l. shipments will eliminate handling and rehandling of component packages at terminals. Marine underwriters, recognizing the value of container shipments in reducing damage and pilferage claims, are granting users preferred rates.

MARINE operators long have realized that an important factor in the cost of freight handling is the expensive and time-consuming operation of checking and assorting packages comprising an l.c.l. shipment. A study undertaken by one steamship company recently revealed the fact that its freight handling costs, always a major expense item, had risen from 36 percent to 66 percent of gross income. Damage and pilferage claims, another important cost factor, were shown to have increased to approximately nine percent.

It was evident that drastic reforms in handling technique were needed, particularly as no alleviation could be expected through the ultimate decline or even stabilization of labor and operating costs. The ideal solution would be one which would eliminate the necessity of handling and rehandling the many small items making up an l.c.l. shipment while, at the same time, obviating the possibility of damage and pilferage in transit. This objective, it was decided, could be accomplished best through the medium of a light, strong, waterproofed container designed to keep l.c.l. components intact en route from shipper to consignee.

Such a container posed numerous problems. Its length, for example, must conform to the width of standard gage railroad car and truck platforms, such as are encountered in the West Indies and in South American countries. Its height, on the other hand, would have to be determined by the between-decks clearance of modern ships, particularly of those constructed during the war. To provide greater flexibility in the matter of height, it seemed desirable to equip the container with collapsible legs to permit handling by fork truck. The greatest usefulness, it was felt, would be realized by providing a leg which, when erect, would give a clearance of 12 in. under the container for platform handling, and when folded, 3½ in. for handling by fork truck.

To conserve space in terminals and in the deep holds of ships, the design contemplated recessing the

(*Continued on page* 64)



Packaged cargo containers keep l.c.l. shipments intact until goods are delivered. They may be stacked to save floor area.



A unit container is loaded onto a truck with efficiency and economy. Contrast this with the loading of loose merchandise.

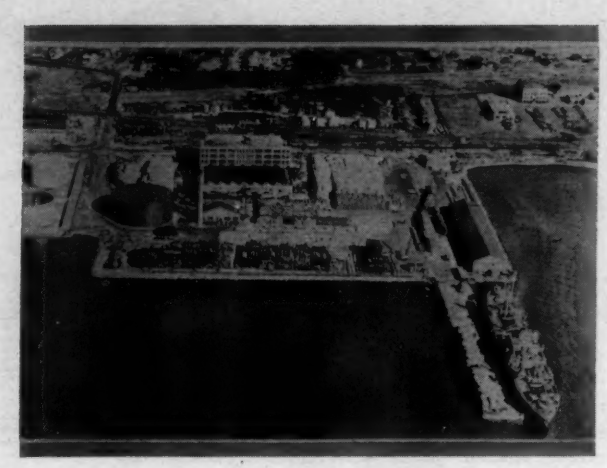


Fig. 1.
Airplane view of facilities of New Haven Terminal, Inc. Note pier, storage area, railroad sidings and portable platforms.

Marine

Must Be

New terminals should be constructed so that they can be adapted as required to the handling of various types of commodities through the physical

By MATTHEW W. POTTS.



Fig. 2.
Fork truck places 8,000 lb. unit load of copper five high. Dunnage is simple.

BEFORE the war, much was said and written about the design and operation of marine terminals. This information was based on normal operating experience over a period of years including those of the first Warld War.

At the beginning of World War II, a number of radical changes had to be made in a wide variety of industries and shipping facilities, in order to meet the demands of the armed forces.

It was found that many piers and terminals were unsatisfactory because of fixed equipment, which could not handle the miscellaneous supplies which had to pass across the storage area, pier shed and dock.

In some instances, where the use of a particular port was desirable, and where the port facilities were limited and new construction could not take place, existing installations were changed completely, and new materials handling equipment was installed to handle the army and navy supplies.

Fixed Equipment

Other facilities were not used because it would have been too costly to tear out fixed equipment which had been installed for a particular type of operation. In some cases, the combined ingenuity of the American stevedore, other civilian personnel, and the officers and men of the Army and Navy, made it possible to use certain facilities where fixed equipment was already installed, by supplementing it with mobile equipment.

An outstanding example of improvisation occurred at the Naval Supply Depot, New Orleans, which had formerly been a cotton warehouse and shipping point. The port was equipped with interlocking overhead traveling cranes covering the entire storage area, inside and out. By using slings, crane equipment was made to handle pallet loads and to stack them in the warehouse areas. Tractor trailer trains, fork trucks, etc., were installed for handling and stacking from ground level. The combination made it possible to operate port facilities at a fairly satisfactory degree of efficiency.

It is the writer's opinion, however, that new terminals should be constructed so that they can be adapted as required to the handling of various types of commodities through the physical plant or port. The principle of flexibility should be primary, this calls for the use of portable types of equipment.

In 1940, New Haven Terminal, Inc., planned a new terminal at New Haven, Conn., to be under the management of T. J. Heffernan, a man with many years of experience in such operations. The operating manager and engineer in charge of construction was Robert E. Ketchum. These two men, in developing the terminal, insisted upon the utmost flexibility of physical layout and equipment, with the result that their terminal was able to change over from the handling of lumber for domestic purposes to the handling of lumber for export, and was further able to handle metal for the U. S. Metal Reserve Corp. Now, in the postwar era, the terminal, with the same equipment, can be used for handling metals, lumber, paste goods, machinery, and general cargo of all description without the necessity of making radical changes.

Terminals Flexible

plant. The principle of flexibility should be primary, and this principle calls for the application of portable materials handling equipment in marine terminals.



Fig. 4.
Straddle truck handles load of timber. Bolster loads of timber are in foreground. Copper storage area is in background.

Materials Handling Consultant

Plans for New Haven Terminal, Inc., called for everything to be movable in the way of equipment, and for nothing to be set in a definite place except buildings, piers and other similar units.

The pier, 500 ft. long by 60 ft. wide, projects into the harbor at one corner of the terminal land area, and is equipped with shipside railroad track on each side at pier level. The transit or storage shed is placed on the mainland adjacent to this pier, but not in line with it, and the floor of the shed is at ground level and truck level. It is equipped with large doors to permit the entry of the largest types of materials handling equipment, and the roof trusses are approximately 20 ft. above the floor. The shed is 300 ft. long by 60 ft. wide.

The rest of the terminal is graded with crushed stone to provide a hard surface throughout. It consists of approximately 660,000 sq. ft. of storage area on one side of Waterfront Street, and 88,000 sq. ft. on the opposite side.

Railroad sidings run across the property at one end. They feed directly to the storage shed and to the pier. This leaves the rest of the area clear for storage. The main line of the New York, New Haven and Hartford serves the terminal. Reciprocal switching is available. Rail facilities at the terminal itself can accommodate 35 cars. The tracks enter the property along Waterfront Street, so that both storage areas can be served from this point, or cars can be spotted directly at shipside.

Straddle Trucks

Handling equipment consists of four straddle trucks for transporting lumber from shipside to storage area and from storage area to local delivery points up to eight miles from the terminal. They handle approximately 4,000 bd. ft. per load. All stacking or piling in the yard, warehouse or storage shed is done by fork trucks or cranes. Several sizes of fork trucks are available, including four 15,000 lb. machines capable of stacking 17 ft. 6 in. high; and two 4,000 lb. machines, one 3,500 lb. machine, and one 2,000 lb. machine capable of stacking 9 ft. high.

For transportation within the shed and on the dock of certain classes of case goods, tractor trailer trains are available. This equipment consists of three tractors and 65 trailers. One of the tractors is equipped with a snow plow for clearing roadways and working areas.

It has been found that for certain handling operations, it is necessary to use mobile cranes, and two of these units each of 15 tons capacity with 65 ft. booms are available.



Fig. 3.
Method of stacking lumber level. Note neatness; standardized unit packages.

In every way, handling is made as simple as possible. This is illustrated in Fig. 2, which shows the handling and storing of reserve metals, copper and aluminum. These ingots are stacked in such a way that pallets are not required, and dunnage is of the simplest type. Lumber is stacked in unit loads and the stacks are flat instead of at an incline, as would be the case in the usual storage terminal.

Flat stacking of lumber has been a unique feature at New Haven Terminal from its inception. It permits portable bolsters to be laid on

(Continued on page 56)

Importance of a Charter Party



The purpose of this article is to direct attention to the meaning of the term charter party, and to emphasize that it is hazardous and costly for the uninitiated to draft such a covenant. A charter party, like a will, should be drawn by a specialist.

By HENRY G. ELWELL

Traffic Consultant

SLOWLY the freighter glided into the dock. The hawsers were cast and made fast. With a final jangle of bells and a word of command the ship lay at the pier awaiting unloading.

When the vessel touched the dock the traffic manager of the consignee leaped aboard. Making his way to the cabin, where the customs inspectors were completing examination of the ship's papers, he greeted the captain. After the usual exchange of pleasantries the traffic manager said, "Captain, we are ready to begin removing the cargo. I presume it will be all right for us to use your ship's winches. It's a regular practice with all ships discharging at this pier."

"Use the ship's winches? What do you mean?" inquired the captain.

"The charter party covering each craft which arrives here provides that we may use the winches along with our own equipment to unload the cargo," explained the traffic manager.

"Well," retorted the captain, "you are out of luck this time because there is nothing in the charter party relative to your company's use of this ship's winches. Haven't you read your copy?"

The traffic manager admitted that he had not yet received a duplicate of the charter party from his company's agent in London, who had taken part in drafting it. With a friendly gesture the captain loaned his transcript to the traffic manager who, rapidly reading, quickly learned that the captain's statement was true. There was not a word in the charter party as to the use of the winches. Further, it was poorly drawn insofar as the consignee's interests were concerned. In its entirety it completely favored the ship's owners.

About all the charter party covered for the consignee was that the ship should take on a cargo of soft coal at a named port in Wales, then proceed to a designated port in the United States for discharge of the cargo by the receiver. The agent in London who represented the consignee, located in the United States, either had not been furnished with sufficient data, or else he was incompetent and inexperienced.

"Look here, Captain," said the traffic manager, "if we cannot use the winches we will incur delay with at least $2,000 in demurrage charges. If I obtain a letter, addressed to you, from our vice-president in New York guaranteeing that the winches will be in good condition when you are ready to sail, may we use them?"

"No," stated the captain. "A letter would not change the terms of the charter party. However, will you give me your personal word of honor that your company will make all necessary repairs, at its own expense, in the event the winches or the ship should be damaged?"

(*Continued on page* 95)

Is Coastwise Shipping Doomed?



Differentials, the life blood of our domestic water services, have been narrowed by rail competition to the point where coastwise shipping cannot operate profitably. Whether the ICC will lift all-rail rates to permit an adequate differential spread, in large part, depends on the willingness of shippers to accept rail increases necessary for the profitable operation of water carriers.

By EDWARD K. LAUX

Traffic Manager
Department of Port Development
The Port of New York Authority

WATER and rail services, when they offer alternative shipping routes, are essentially competitive. Many of our inland water services were developed by the railroads and when these same fostering railroads were later incorporated into one or the other of our great continent-spanning systems, the usefulness of the water carriers ceased and they were subjected to ruthless and destructive competition. During World War I, the inland services which, for the most part, had wasted away from malnutrition were resuscitated by the government as a war emergency measure.

The railroad controlled coastwise services, unlike the inland water services, were permitted to operate profitably until recently because they served as essential links connecting the traffic producing areas along the Atlantic seaboard with inland services operating out of the ports of Hampton Roads, Savannah, New Orleans and Houston. These combined services enabled the affiliated railroads to compete with the powerful trunk line carriers which spread across the middle Atlantic states.

The first attempt at federal regulation of the railroads was made back in 1887. The legislation, as passed that year, did not provide for control of water transportation *per se* but because of already existing rail control by the Interstate Commerce Commission it did include water carriers with railroad affiliations. The act did not apply to all-water port-to-port transportation as such, but to combined water and rail movements only.

Rate Wars

The original act was ineffective in many ways and the Commission found it difficult to carry out the intent of the law makers. Rate wars and rebates continued. It was almost impossible to obtain data on competitive rates. As a result amendments were added in 1906 (Hepburn Act) and later in 1914 (Panama Canal Act). Under the new provisions, the rail-controlled water carriers became subject to ICC regulations affecting port-to-port rates.

About the same time rebating was made prohibitive and, in consequence, the rail and water carriers recognized the wisdom of setting up differentials. The establishment of these differential rates affected a very important segment of our intercoastal water services as well as those operating along the Atlantic, Gulf, and Pacific coasts. For years, the all-water port-to-port rates of water carriers other than railroad-owned services were without effective governmental regulation and the first regulatory law (the Shipping Act) was passed in 1916. This law, however, excluded control of commerce on inland waterways. It was designed to protect the water carriers from ruinous competition within the industry and to protect the public from the effects of monopolistic practices.

Shortly after passage of the Shipping Act, the outbreak of World War I caused the federal government to assume control, under the provisions of the Federal Control Act, of the railroads. This act also set up a large fund to enable the government to purchase, construct and operate boats, barges, tugs and other transportation facilities on the inland, canal and coastwise waterways. Water services on the canals and inland waterways had by this time reached the vanishing point and the program was aimed at their rehabilitation as a war measure. In order to attract traffic, port-to-port rates, amounting to 80 percent of the all-rail rates or to a 20 percent differential, were made.

It was soon realized, however, that these newly created services could not exist on port-to-port traf-

fic and that the railroads were rapidly weaning business away from the water carriers, putting many lines out of business. Consequently, Congress terminated federal control in 1920 and put into effect a policy which was designed to encourage and develop water transportation. The act, however, did not provide for the discontinuance of governmental operation of barge services in the Mississippi and Ohio rivers.

Later, to enable private operation without bureaucratic regulation, there was enacted the Inland Waterways Corporation Act of 1924, which was amended in 1928 by the Denison Act. This legislation, while extending governmental services to tributaries of the Mississippi River, excluded such services from the Ohio. It also gave the ICC authority to grant water carriers or prospective water carriers on the Mississippi and its tributaries certificates of public convenience and necessity, and provided for the establishment of through routes and joint rates. Under the law, the ICC was authorized to establish a reasonably minimum differential between the all-rail and the water-rail rates.

New Rates

Existing rail-barge rates were, under the law, continued in force and new ones established on a 20 percent differential basis. A formula prescribed by the ICC was to be used for the guidance of the rail-barge lines in determining the limitations of these differentials. Current differential rates are still related to corresponding all-rail rates according to the old formula. Differentials thus set up are the only ones approved by the ICC, which is reluctant to set up differential formulae for all-water or water-rail rates for other types of water carriers. The Commission has always assumed as basic that rates reflect the economies in water services, and has tried to equate water and rail miles.

Differentials are the magnets which attract business; they also are a measure of the inherent limitations of water service. In the setting up of differentials, rail transportation is the accepted criterion. Shippers generally are influenced in their selection of a route by what the railroads have to offer and by their prices. As a consequence, differentials represent the difference in dollars and cents under rail freight rates.

The differential rate structures affecting transportation from the eastern seaboard to the west cover several types of service, including ocean-rail, standard rail-lake, differential rail-lake and differential all-rail. These services compete one with the other but all observe the differential understandings arrived at in respect to standard all-rail. Rate changes are made only when initiated by changes in the standard all-rail rate structure.

The coastwise carriers, acting in conjunction with their preferred rail connections, wielded considerable power in the making of rate adjustments affecting the Atlantic seaboard on the one hand and the southern and southwestern territories on the other. The intention, for the most part, was to enable industries in the south and southwest to reach the great, densely populated markets of the east at rate levels lower than those generally prevailing under the ICC prescriptions. Departures from the latter basis, however, were vigorously opposed by the trunk line rail carriers. Also by some of the northern rail carriers who ultimately were forced to reduce all-rail rates in order to meet competition from motor carriers, barge services and services rendered by tramp or contract steamships.

The result was a narrowing of differentials. All-water port-to-port services began to suffer from competition between controlled and independent water services operating under contract rates. Following the 1932 depression, competition between different kinds of transportation, i.e., rail, water, and highway, became serious. The standard rail carrier services claimed that their competitors were free of regulation while they, the railroads, were subjected to crippling control. There unquestionably was some justification for complaint and the need for regulation was conceded by many shippers as well as other carriers.

Many Laws

The situation then existing prompted the enactment of many laws. The act providing for the appointment of a federal coordinator of transportation with authority to undertake an exhaustive investigation with a view to the regulation of unregulated services was among the most important.

Regulation of intercoastal lines became effective under the provision of the Intercoastal Shipping Act of 1933; later, in 1938, this act was amended to include coastwise and Great Lakes services. Concurrently, legislation was enacted creating the United States Maritime Commission to supersede the Shipping Board.

Meanwhile, in 1935, regulation of the motor carriers was provided by law. The Transportation Act of

(*Continued on page* 100)

Competition

Preservation of intense competition between highway, rail, air and water transportation is absolutely essential as America enters the postwar era of transportation development, Arthur C. Butler, director, National Highway Users Conference, Washington, D. C., declared recently.

Speaking before the annual convention of New Mexico Cattle Growers Assn., Albuquerque, Mr. Butler said that "through competition, the different transportation agencies will develop along intensive lines. It is in that way that the railroads, the airways, the highways and the waterways will each be inspired to improve its physical structure and service in order to stay in business."

Petition ICC

The War Shipping Administration and the Maritime Commission have filed a petition with the Interstate Commerce Commission, calling upon that body to investigate the entire competitive rate structure. The petition charges that the destructive impact of competitive rail rates upon the operation of domestic ship operation is seriously hindering resumption of intercoastal and coastwise shipping.

Profitable operation, it is said, is not possible under even the most favorable tariffs unless readjustments are made in competitive rail rates to permit adequate differentials.





Left: The diesel motorship Twin Port carries freight between the Great Lakes and the Atlantic Seaboard through N. Y. state canals. Below: Most powerful ice breaker in the world is the Mackinaw, 10,000 h.p. craft operated in inland waters by the Coast Guard.

Will Lake Ports Modernize?

Much will depend on Congressional action on the proposed St. Lawrence seaway and power project. If authorized, lake ports probably will act to improve channels and modernize docking, warehousing and terminal structures, and large companies are expected to invest heavily in permanent water distribution facilities.

By JOHN C. RANDALL

Special Correspondent

ONCE again the industrial spotlight of the nation is being centered on the question whether the United States should join with Canada in a program to develop the St. Lawrence River into a more suitable channel for the passage of ocean-going craft to and from the Great Lakes. If the Congress should answer this question affirmatively, there would be an immediate surge of activities by the chief Great Lakes ports, to make their respective facilities ready for anticipated new volumes of local and world shipping. These activities undoubtedly would include improvement of port channels and modernization of docking and warehousing structures of the leading port cities, which include Buffalo, Cleveland, Detroit, Chicago, Milwaukee, Duluth, and other smaller Great Lakes ports.

However, such basic port changes would be spread over a period of several years which probably would elapse before any planned improvements in the St. Lawrence River channel could be completed; and during this period there likely would be adjustments in the ICC-regulated rate structure, to make rates more favorable to the development of Great Lakes common carrier shipping, as compared with present competing rail shipping rates.

In the meantime, and regardless of what may happen to the proposed St. Lawrence seaway improvement project now before Congress, there will be adjustments of Great Lakes shipping.

The winter or closed period on the Great Lakes usually begins in late November or early December, and usually ends in late March or

(*Continued on page* 104)



Left: Steps in corrosion control must be part of same continuous operation.

Photos courtesy Signal Corps, U. S. Army



Materials which can not be dipped may be treated by means of Method 2 pack.



First the parts are cleaned thoroughly by the packer in an appropriate solvent.



Compressed air or ovens are used to accomplish drying of the materials.

As it is impossible to cover all corrosion control techniques in the limits of this article, we shall confine this study to the principal struggle against corrosion in distribution, namely, that of moisture on metal. Obviously, this is of particular interest to those concerned with water transportation. Corrosive action on metal does its greatest damage during the relatively long periods necessary to water transportation, with its loading and discharging at piers, the penetrating humidity of fogs and the particularly insidious effect of salt air.

Another reason for concentrating on prevention of damage to metal is that such knowledge is the basis of most other corrosion control techniques. It was found in instructing large groups of army packers that once a team was versed in the methods of preventing corrosion to metal parts, they had the fundamental knowledge necessary for packing virtually any type of material to prevent damage in transit.

Of course, there are some notable exceptions, especially in the field of inflammables, explosives and other hazardous cargo, where no one should fall back on general fundamentals. In the case of these exceptions all packers and shippers should adhere carefully to published instructions. Usually, the manufacturer will have performed a proper preservation and protective packaging job.

It seems elementary to have to emphasize to all freight handlers that signs reading, "keep away from heat;" "avoid freezing temperatures;" "use no hooks;" "fragile—handle with care;" "no outside storage;" "ventilate every 30 days;" "this side up," etc., are not stencilled on shipping cases indiscriminately. These often are the very essence of a planned fight against deterioration.

We have said the corrosive action on metal is the No. 1 hazard in

By CHARLES L. SAPERSTEIN

General Manager,
Glean's Assortments, Inc.,
New York
Formerly Packing Control Officer,
Army Air Forces

Corrosion control techniques are sufficiently numerous and elastic to permit protective packaging for almost any article irrespective of its nature or complexity. Moisture barriers are available for the smallest watch as well as for complete vehicles. Also, the packer of foods and drugs has many means of safeguarding against contamination or spoilage.

Corrosion Control Techniques

shipping. With moisture everywhere in our atmosphere, in wood, in paper and most other packaging materials, we might as well concede there is no such a thing as a completely dry part, or a wrap that is 100 percent impervious to moisture. When preparing complex mechanisms such as typewriters, timepieces or motors for export a wise packer includes pouches of a dessicant such as silica gel, inside of a hermetically sealed water-vapor-moisture barrier enveloping the merchandise. The dessicant does two things: first, it takes up any moisture in the atmosphere remaining within the barrier, and secondly, it dehydrates any additional atmosphere which inevitably will seep through the best of all presently known barriers such as foil or pliofilm.

First to be considered are four steps which apply to all corrosion control methods alike. These four steps briefly, are: 1. Cleaning. 2. Drying. 3. Selecting the right type and weight of corrosion preventive. 4. Application of the corrosion preventive. We can identify these four steps perhaps as that part of a production line operation which requires "apparatus" or "equipment." The later steps of inner packaging and enclosing in final shipping container are accomplished on the wrapping table or the packing room floor. But the preliminary cleaning, drying and application of

(*Continued on page* 78)



Small parts may be dipped into preservative. It is painted on to larger items.

Method 1-a calls for waterproofing the outer wrapper through dipping in solution.

The careful packer will submit his final package to tests by water and heat.



Deterrents to world trade which everybody hopes will soon be removed are famine conditions in most of the world, government controls, blocked currencies, embargoes and other restrictions and discriminations that only time and concerted effort will remove successfully.

Outlook for Merchant

By ALMON E. ROTH

President
National Federation of American Shipping
Washington, D. C.

FOR the most part, the public generally has assumed that the mere preponderance of American merchant ships and the world demand for our products assures, if not guarantees, the United States a preeminent place among the world's maritime powers.

This optimistic outlook is shared by business. Impressed by the remarkable wartime achievements of the American merchant marine, many businessmen assume that such wartime progress can easily be transformed into peacetime operations of a comparatively corresponding magnitude.

It is unfortunate that, despite its great role both in war and peace, the problems of the American merchant marine are not fully understood by business; for it is business which has a tremendous stake in our merchant marine. In the final analysis, it is ships that constitute the bridge over which may move the kind of two-way trade desired by all as essential to the prosperity and well-being of ours and scores of other nations.

Cargo is delivered directly from ship to the second floor of this Los Angeles harbor transit shed.



Shipowners and operators who must buy new ships, pay the salaries for their extensive organizations, solicit the cargoes and assure their arrival at many destinations, know now as never before that difficult problems facing the new American merchant marine must be solved if the nation is to translate its optimism into a realistically adequate shipping industry. In this respect American business can aid greatly in the solution of these problems.

Representing nearly all shipowners, the following trends and probabilities are presented as viewed by the shipping industry:

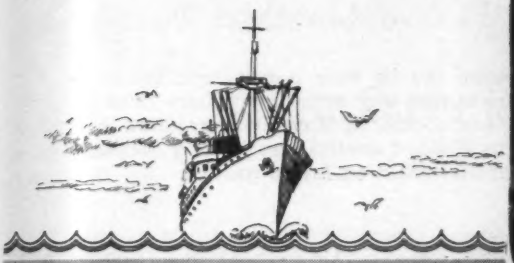
1. It had been the fervent hope of the private shipping interests that shipping would be returned to private operations in the near future. It now appears, however, that the complete transition from government to private operation cannot be accomplished as quickly as had been hoped for, due to the fact that both domestic and world commerce cannot be conducted yet under normal conditions.

In the domestic field, even though tonnage has been available for several months, our coastwise and inter-coastal services are still being operated for the government. There is considerable speculation as to when it will be feasible to resume private operations. High labor costs, strikes which have interrupted the flow of commodities and noncompensatory freight rates still constitute impediments to the resumption of normal domestic trade.

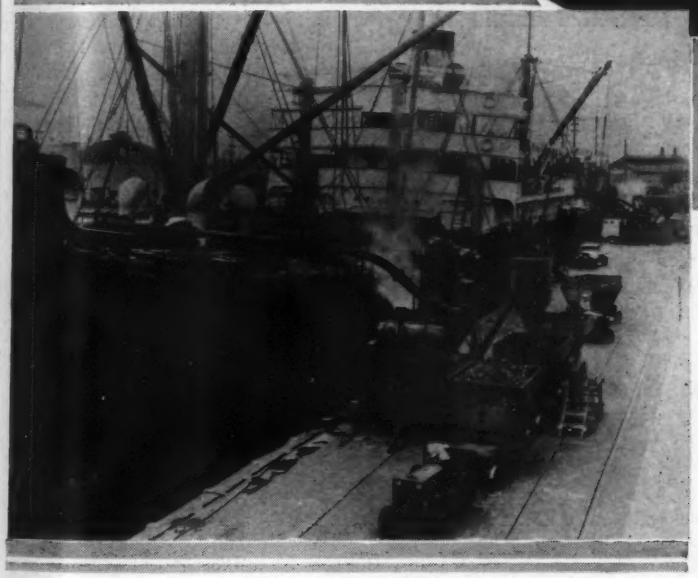
2. The full reconversion of overseas shipping to normal operations may be hampered for some months to come because the great bulk of world commerce will be directed by governments. In many trades government purchases will replace ordinary transitions. UNRRA plans to move more than 7,000 000 tons of cargo this year of which approximately 6,000,000 tons are scheduled for transportation before Sept. 1. Moreover, UNRRA cargoes must move expeditiously without regard to the availability of return cargoes and other factors which govern normal commercial operations.

Another factor which will prevent immediate and complete removal of government controls is the necessity for coordinating shipping services with the rehabilitation programs of the various countries. This does not mean that many vessels will not become available for strictly private, commercial operations. Each month should witness improvement with an increasing number of vessels available for private operations, but until government controls are thrown

Shipping







Above: Versatile ship's gear is used to load and unload bulk commodities. Left: A vacuum pipe process is used to draw copra from the ship's hold.

aside completely, or nearly so, we cannot say truthfully that shipping has returned to normal commercial operations.

3. Other deterrents to world trade which everyone hopes will soon be removed are blocked currencies, embargoes, other restrictions and discriminations. Also, some practicable means must be developed for retiring obsolete tonnage in order that the world is not glutted with overtonnage.

The foregoing are the most important factors facing American shipping now. There are others which can be summarized briefly as follows:

Some commentators on shipping policies are prejudicing the cause of American shipping by advocating that the United States should curtail its shipping services to enable foreigners to earn dollars with which to purchase goods. The same argument could be applied with equal force to any product we make, or any service we render in competition with other countries. The argument that foreigners earn large sums by their shipping services which are then used to buy American exports has been debunked again and again, but keeps reappearing periodically like an old pair of shoes with new half soles.

Barriers which hamper instead of helping travel must be removed. Commercial, tourist and student travel must be encouraged from

(*Continued on page* 93)

Federal or State Regulation of Aviation?



Air transportation, by its very nature, can know no roadbed nor recognize any state line. There must be uniformity in laws, and in their interpretation and enforcement, as divided control can have a seriously retarding effect on future growth.

By JOHN H. FREDERICK

Air Cargo Consultant

FROM the start of aeronautical activity it has been a question as to just who should do the regulating. In the earlier days, those who were most interested in aviation wanted the federal government to assume jurisdiction over the right of flight and over the regulations governing the conditions of flight. They wished to develop aviation unhampered by state regulation. Another, and by far the larger group, having neither interest in, nor desire to use, the air for transportation purposes, actively opposed or urged caution in making any federal aviation law.

Prior to the passage of the Air Commerce Act of 1926, many considered the air analogous to navigable waters and thought that a law controlling its use could be invoked under the admiralty powers of the federal government. A constitutional amendment was suggested. General use of the airplane, requiring some sort of regulation, arrived before there was any unanimity of legal thought on what kind of law or regulation would be best. This confused situation resulted in a multiplicity of statutes, both state and federal.

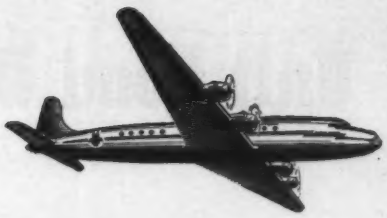
For example, there was the question of airway development under the postal and commerce powers of Congress about which there was little argument. Again, there was the strong argument for federal control, to the virtual exclusion of state regulation, based on the interpretation of the commerce clause of the Constitution. Gradually, however, it became evident that air transportation belonged in the field of regulation where the federal government may act under the interstate commerce power because, factually, the problems are so inherently national in character as to require uniform control of all planes, all pilots and all instrumentalities of air commerce. Modern air transportation cannot recognize state lines; there must be uniformity not only in laws but in interpretation and enforcement. Firmness and finality of control are required.

Air and land transportation differ in a number of ways but one of the most important differences is that land carriers travel on well defined roadbeds and can reduce their speeds or stop anywhere as safety may require. Collisions can occur in land transportation only on one common level and within restricted speeds. Air trasportation, on the other hand, knows no roadbed. The air is even more free of defined pathways than is the ocean, and there is the hazard of collision from every angle and direction. Aircraft, moreover, except under conditions of extreme emergency, can stop only at airports.

A scheduled or non-scheduled intrastate flight can become interstate by unpredictable conditions of wind and weather which affect air transportation in a wholly unique manner. An alternate airport, hundreds of miles away, or a circuitous route, hundreds of miles off the intended course, often must be selected.

In commercial air transportation control over a particular flight, both by the company and by the government, is exercised by radio aids to navigation from points far distant, and often from two or more widely separated points in different states. Developments in the use of radar

(*Continued on page* 58)



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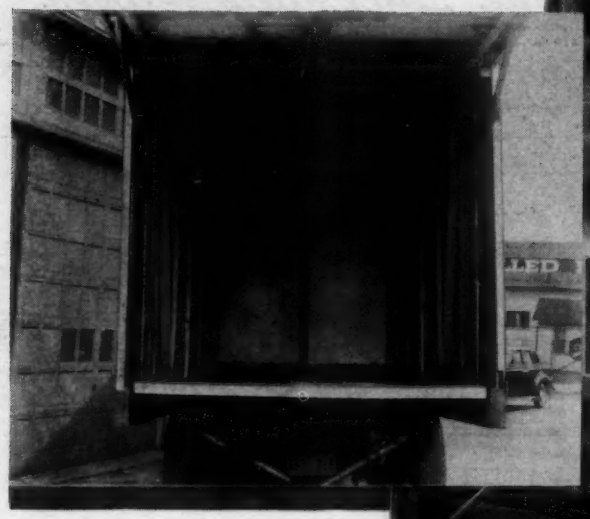
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THE NATIONAL AND INTERNATIONAL ROUTE OF THE FLAGSHIPS

New Truck Body Permits Container Unit Load Delivery







Below: End view of truck body showing containers extended from overhead rail, caster guides and conveyors in the floor, and hydraulic jacks for leveling. Right: A container is delivered to ground level by means of an end elevator. Control point is in the panel door at the end of truck. Lower center: Containers shown in truck. Elevator platform is in position for end door to close.

THE Kangaroo Body Co., of Maspeth, New York, is displaying a container delivery truck built in accordance with patents developed by Jack Pearlman, and plans to be in production in the near future. The truck has a number of unique features. The accompanying illustrations show the unit mounted on a standard truck. This unit is capable of carrying 12 containers 32 in. deep, 42 in. wide, and 70 in. high. Each container is capable of carrying 2000 lb.

In Fig. 1, is shown the interior of the truck with the containers in place, and also the jacks which are placed under the truck for levelling when required. Note the 3-in. I-beam supports for the containers and the open space through the body with the conveyors on the floor of the truck.

The containers may be loaded from ground level into the truck by means of the elevator or they can run off the platform and feed directly on to the track as shown in Fig. 2.

The containers are equipped with two rigid and two swivel 5-in. plastic wheel casters so they can easily be handled when removed from the truck. The wheels for supporting on the 3-in. I-beam remain permanently on the container. End shift is prevented by means of a cam locking device which is operated from a control point located at the back end of the truck on the right side. This same control point operates the elevating mechanism which raises and lowers the containers and opens the back end of the truck, and also actuates the conveyor in the floor of the truck for pulling out to the elevator one or more of the loaded containers, a feature required because of uneven delivery conditions.

The conveyors and end elevator are operated by means of flexible shaft connected to the power take-off on the engine, and the elevator movement is controlled by automatic stops for raising and lowering. It requires approximately

(*Continued on page* 94)

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PIONEER AND PACEMAKER IN AUTOMOTIVE PROGRESS

Fleet of wooden tow barges wait at wall leading to the lock.



Prospects of the immediate future in Mississippi Valley water transportation are that the flow of water traffic

Inland Barge

By RANDALL R. HOWARD

Chicago Correspondent

DURING the critical months of the recent war, an important factor in helping the nation to avoid an ever-threatened "traffic bottleneck," was barge shipping on our inland waterways. Barge shipping also will be an important factor in postwar shipping adjustments.

The largest wartime barge transport system was along the Mississippi River and its tributaries, including the extension of this system through the Illinois River and Chicago Canal to a gateway connection with the Great Lakes and St. Lawrence waterway. A second important connection with the Great Lakes was through the New York State barge canal.

In addition to the vast barge tonnage which the Mississippi River carried during the war period, this waterway also made another great wartime shipping contribution which was kept as secret as possible during the war and which still is little known.

This shipping contribution was stimulated during that critical period of the war when Nazi U-boats were most menacing along the Atlantic Coast from the mouth of the St. Lawrence River to the Gulf of Mexico. In those days, the prize prey of the waiting U-boats were the convoys of partially completed ocean-going craft which had left the Great Lakes shipyards via the St. Lawrence and were on their way down the Atlantic Coast to New Orleans to be made ready for active sea service.

Chicago Canal

To escape this U-boat hazard, it was planned that uncompleted craft should be portaged from the Great Lakes shipyards through the Chicago Canal and along the Illinois and Mississippi Rivers to the port of New Orleans. Early in 1942, the feasibility of this plan was demonstrated to the late Secretary of the Navy, Frank Knox, and preliminary preparation work was begun. This work included the installation of operating machinery on the 14 movable bridges along the canals through the Chicago Sanitary District; and alteration of one fixed bridge to provide a 35-ft. waterway clearance. Early in 1943 these improvements had been accomplished at a cost of about $3,000,000; and during the remainder of the war the transport of the war-needed craft through the Chicago Canal gateway and down the Mississippi was continued.

It can now be stated that nearly 700 war craft of a dozen different kinds aggregating 400,000 tons of shipping were so transported. The craft included 76 cargo carriers, 250 ft. long, which later carried supplies to South Pacific naval forces; 29 submarines, most of them 320 ft. long, and a great variety of others such as troop transports, patrol gun boats, frigates, destroyer escorts, landing craft, mine sweepers, tugs, tankers and patrol boats. The larger-sized craft and submarines were towed by tugs; and to bring the draft of the submarines within the 9-ft. minimum canal and river channel depths, they were taken down the river on huge floating docks. Also, pontoons fitted to the big freighters lessened their draft by about two feet.

The big ships were dismantled sufficiently so their superstructures would clear the lowest of the lift bridges. Some of the smaller craft were loaded on the larger ships or on pontoons. Many of the larger craft traveled under their own power. It is reported that during the task of transporting the 700 craft over the 1288-mile inland water route from Calumet Harbor in the Chicago area to Baton Rouge, La., there was not a single accident.

Additional traffic handled on this great inland waterway system dur-

will drop somewhat below that of the war years, but that the volume will be well above prewar levels.

Shipping

ing the War period, and which likewise is being handled today as postwar traffic, has been much less spectacular. Doubtless the most spectacular thing about the surprisingly large volume of traffic on the Mississippi River today, is the fact that it exists at all, after the long period when there was so little public interest in our inland waterways.

There have been many changes since the old Mark Twain days when the inland waterways afforded the only transportation outlet for the great Mississippi Valley basin. This area combines the great "breadbasket" resources of 24 states that today represent some 50 millions of our population.

Public Interest

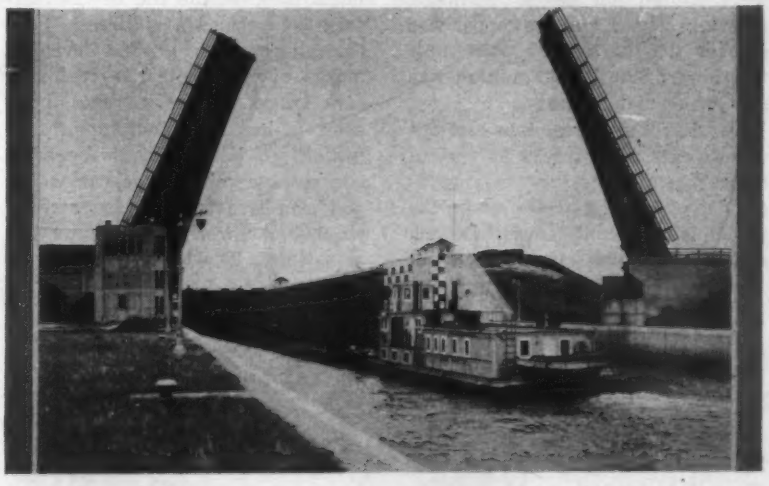
A new public interest seems to be developing in our navigable waterways. There is a growing public realization that our rivers and harbors should be improved and maintained merely from the viewpoint of national defense. This increasing interest has helped to make possible a systematic national waterway improvement program which is supervised by the Army Engineers, supported, of course, by Congressional appropriations.

One very important example, mentioned above, has been the expenditure of $3,000,000 to improve the Chicago outlet from the Great Lakes to permit the transport of 700 war craft down the Mississippi River to New Orleans. Public officials have stated that this single

(*Continued on page* 103)



Monongahela River coal tow of 8,500 tons capacity passes through lock.



Bridge in operation, Brandon Road Lock, on Illinois waterways system.



Leaving lock at Louisville, Ky., with 18 barges in tow. Length, 900 ft.

Marine Terminals

(*Continued from page* 41)

the ground, and they need not be set on concrete blocks or piers. They are therefore easily moved from one location to another as storage requirements are changed.

For example, during the war, the domestic lumber storage area was farthest from the pier, while the reserve metals were stored in the space near the pier and the car unloading siding. Now, lumber is being returned to its former position as metal is moved out of storage, and this transfer does not require any construction work. The metals were stored on short dunnage, shown in Fig. 2, and the copper was stacked five units high, each unit weighing 8,000 lb. Aluminum was stacked on flat dunnage.

For handling metal into and out of box cars with tracks at ground level, it was necessary to provide car dock facilities. Here again, the principle of flexibility was followed, and portable platforms were built in units approximately 15 ft. wide, 25 ft. long, and 4 ft. 6 in. high. These units are shown in Fig. 6 and Fig. 1.

To take care of unloading requirements, 500 lineal ft. of portable platform, which can be moved to any location, was constructed. Each unit of the platform can be picked up either by two of the large fork trucks or by one mobile boom crane, and can be placed adjacent to the railroad cars anywhere along the siding. They can be placed out on the pier, if desired. By providing a ramp at the end of the platform, loads can travel directly from the platform to ground level by means of tractor trailer trains or fork trucks. In most cases, however, it has been found more expedient to handle the loads from the storage pile to the carloading platform by using large pneumatic-tired trucks, which handle four tons at a time. The loads then are deposited on the platform and small 4,000 lb. capacity fork trucks place the unit loads directly into box cars.

Lumber has been handled from the hold of the ship, swung to the pier, transported to the storage area and stacked at the rate of 937,400 board ft. in an eight hour day. When the terminal started, the first ship to be unloaded was the Herman Winton, which arrived at 7:30 a.m., Feb. 3, 1941, and sailed at 5:30 p.m., Feb. 5. The task was accomplished in two eight hour days, by five gangs of 14 men each at the vessel, broken up as follows: eight men in the hold, two winch men, one hatchman, two dock men, and one supervisor. Unit loads were built up and swung over the side. Two straddle trucks, one 15,000 lb. fork truck, and three men in the yard transported and stacked 1,499,965 board ft. of lumber in this period. On another ship, the average unloaded with a similar crew in eight hours was 999,904 board ft.

This facility is ready to handle regular postwar business on the basis of 150,000 tons of east and west bound cargo, and 60,000,000 board ft. of lumber in and out of the terminal per year, without the necessity of making any major physical changes, and by utilizing the equipment used in connection with the war effort. Constant planning and adherence to the principles of flexibility has made this possible.

At all marine terminals, operators are discovering the need for better handling methods. Ports which have installed modern devices already have found out that mechanical equipment permits the most efficient utilization of available labor and assures a speedy turnaround of ships. In addition, modern equipment assures quick carloading and unloading, banishes fear of demurrage, and permits merchandise to be trans-shipped quickly to the point of use.



Fig. 5.

General view of dock berthing two ships. Straddle trucks are handling lumber from shipside to storage.

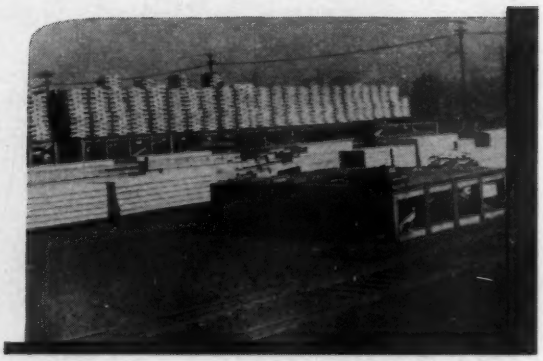
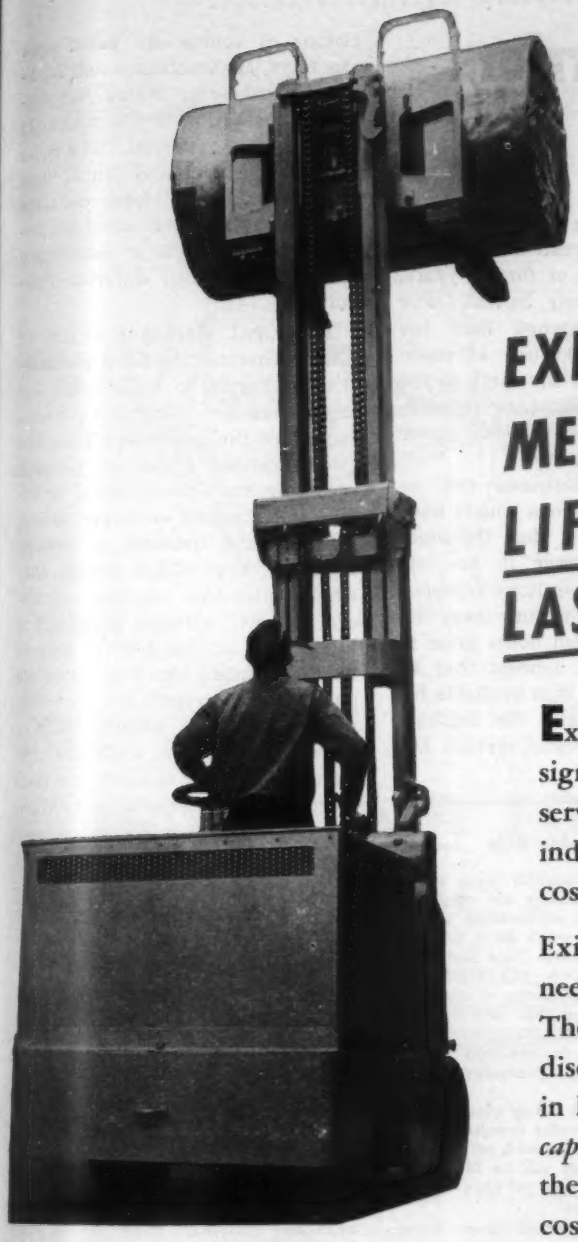


Fig. 6.

All the car loading platforms shown are portable units, and may be moved easily to areas as needed.

Refrigerated Cargo

The ten newest cargo vessels in the United States Lines fleet are equipped especially for shipment of meats, fruits, vegetables and frozen foods, each having 40,000 cubic ft. of refrigerated space to offer commercial customers.

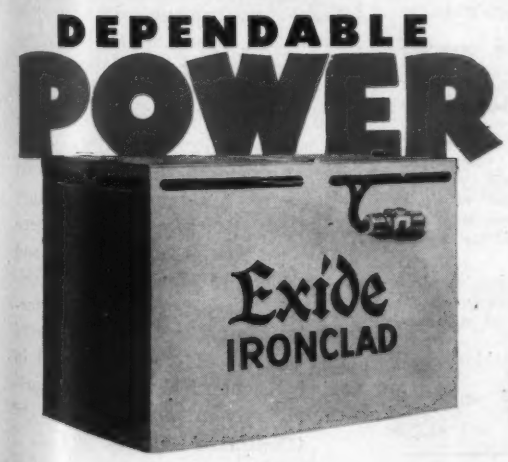


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THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia 32
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Regulation of Air Carriers

(*Continued from page* 50)

will accentuate the degree of remote control.

In the case of air mail the entire service, including the transportation of intrastate mail by air, has always been under federal control. Mail rates for air carriers assume economical airline management and are fixed after taking into consideration revenue from all sources. Unified federal power over the whole operation is required. Dual control is certainly not practical here.

Motor Experience

The fundamental differences between air and ground transportation make it wholly impracticable to divide the regulation of air transportation between 48 different governmental agencies, the states; or to divide the system into 48 different parts. Experience gained from the regulation of motor transportation amply demonstrates the possibility of the restrictions and harassment that can come from conflicting and burdensome regulations by different agencies. The need for protection of air transportation from such a condition is overwhelmingly important.

It is universally recognized that the United States, under the Constitution, is a government of delegated power. When legislating or otherwise acting in the exercise of the powers delegated to our government; or in matters incidental to the exercise of such powers, the federal government and a state government do not have concurrent powers to legislate or to act concerning the same subject matter. Where the federal and state statutes operate on the same object the state regulations must give way to the federal regulations.

Under the "Commerce Clause" of the Constitution, the federal government has the power to regulate air navigation to protect interstate commerce. The need for such authority was recognized even in the early days of aviation when our legal thinking was clouded by some theories of our ancestors which, under the conditions of former years, had seemed entirely logical. For example, we reasoned that the rights of a landowner extended from the center of the earth to the heaven and the right to regulate such ownership was a police power belonging to the states.

Many court decisions can be found wherein various courts have expressed the idea that the state has sovereign power in the air space above the territory comprising the state; however, these decisions were handed down prior to the now accepted concept that all air space must be kept available for interstate commerce, the national defense and the postal service. Decisions of courts are based upon the facts, circumstances and conditions surrounding the subject matter of the action at the times the decisions are rendered. The books are full of decisions which have been overruled by later decisions when changing conditions have presented to the courts the same questions from entirely different viewpoints.

The Civil Aeronautics Act of 1938 authorizes the Civil Aeronautics Authority to make rules and regulations providing for complete control of the economic affairs and the operations of all air carriers, including state aeronautical activities which might endanger safety, in interstate, overseas or foreign air commerce. This means that wholly intrastate operation of aircraft on civil airways is subject to the control of the federal government. It means also that intrastate operation of aircraft not on a civil airway but of a nature likely to directly affect or endanger the safety of aircraft in interstate commerce is under federal regulation.

Since 1938, therefore, air carriers transporting the United States mail, interstate passengers or interstate shipments have not been able to operate lawfully without a certificate of public convenience and necessity issued by the Civil Aeronautics Board and without complying with the rules and regulations of the Board.

Public Benefit

Suppose one or several states should undertake to regulate in aviation matters over which the federal government already has jurisdiction, even though the state regulations nominally followed the federal rules. What public benefit could be obtained from having several sets of substantially the same rules and regulations administered by several separate and distinct agencies? Also, suppose there were conflicts between the federal and state rules and regulations, or suppose they were applied and interpreted differently by the several agencies. Should those engaged in varied aeronautical activities, private and commercial, conform to

(*Continued on page* 83)

Uniform Air Bills

Several airlines recently have taken the lead in establishing air cargo as an integral part of nationwide airline service by starting work on a uniform air cargo bill of lading. This first step, frequently urged by DISTRIBUTION AGE, will make air cargo a national service. As soon as this uniform bill of lading is perfected, the interchange of cargo from line to line can begin. Uniform accounting procedures are also under study.

Taking the lead to bring about interline shipments and rates are American, Braniff, PCA, TWA, United and Western. New tariffs soon will be filed with the CAB setting up two primary classifications of air cargo:

1. A group of about 20 commodities considered particularly adaptable to air transportation.

2. A general classification covering all other shipments.

In addition, certain special commodity rates will be established between certain points.

Contrary to the practice of some of these companies in the past few months, the new tariffs will provide pickup and delivery as part of their through service. Several agencies are under consideration for performance of this service:

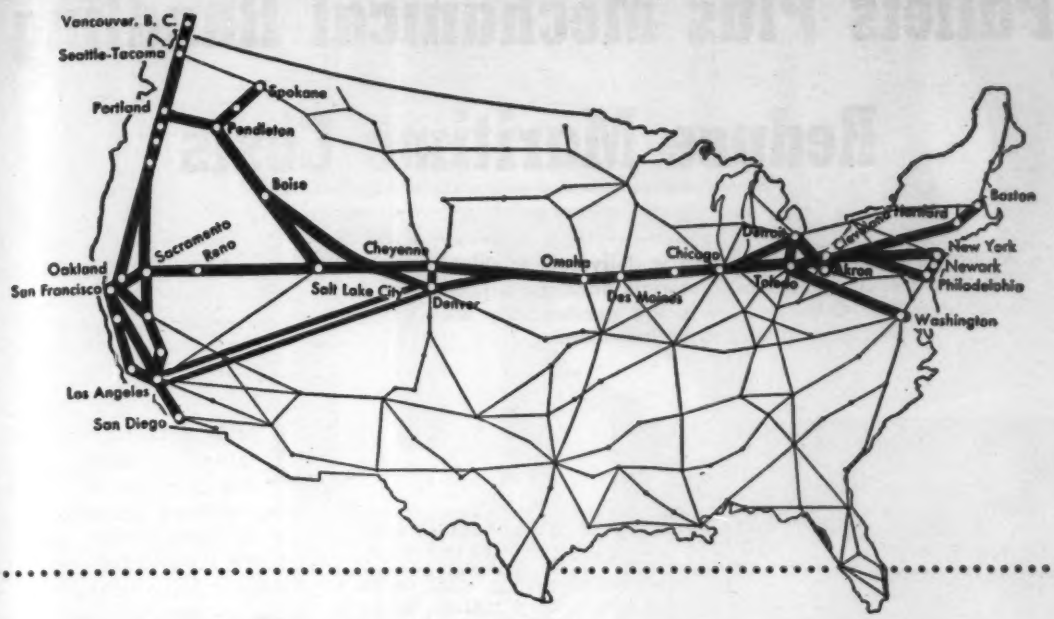
1. The ground transportation service of the Railway Express Agency.

2. United Parcel Service in a number of the larger cities.

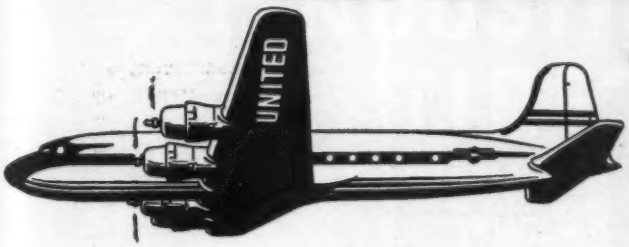
3. Regional and local trucking concerns.

4. Airline owned and operated trucks or motorcycles.—J.H.F.

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Pallets Plus Mechanical Handling Reduce Maritime Costs

While too little palletized cargo is delivered at ship's side, the use of pallets and materials handling equipment after pier delivery is reducing substantially the overall cost of freight handling.

By CAPT. JAMES HARRIS

Moore-McCormack Lines, Inc.
New York



Cargo handling costs are being reduced to a minimum through use of work trucks and pallets. Large shipments can be stowed more economically.



Heavy merchandise, weighing as much as 300 lb. per item, can be palletized advantageously. A weight of 4,000 lb. can be handled by fork trucks easily.



Mechanical handling functions in every shiploading phase, and is reducing the cost of overall operation in the face of rising expenses.

THE cost of cargo handling, always a major expense factor in steamship operation, is being reduced materially by the use of fork trucks and pallets. While it is regrettable that so little palletized cargo is being set down at ship's side, the use of pallets after pier delivery is becoming more widely used. Palletizing is accomplished during transference of cargo from the delivery conveyance to the fork truck. The pallets, of standard size, 4 ft. x 6 ft., are loaded generally by the delivery truck driver and as each pallet is prepared it is moved by fork truck to the space reserved for it in the terminal warehouse.

Pallets are most serviceable when used in connection with the larger shipments of a single product bound for a single port. They can be used effectively, however, even in the case of a shipment made up of a miscellaneous assortment of trunks and packages. While cargo of this kind is being palletized, package sizes are checked by the steamship company's employes and dock receipts issued accordingly.

Different products received at ship's side may each present a separate problem in materials handling. Often palletizing is inadvisable. Automobile tires, for example, may sometimes be handled more expeditiously by means of a rope sling. Drums containing grease or lubricating oil usually are palletized. Some drums received for shipment

(*Continued on page* 99)



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International Air Cargo . . .

The dream of yesterday; the reality of today

By J. A. WOOTEN

Director of Cargo
American Airlines System

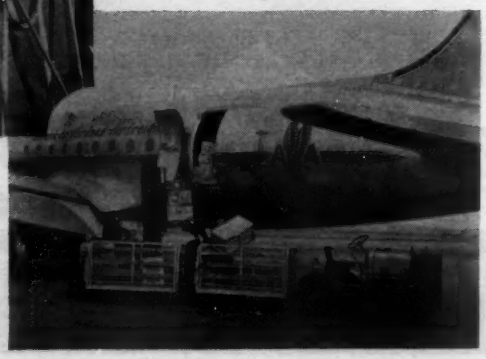
The recent agreement between Railway Express Agency and American Airlines System permits shippers anywhere in the United States to use international airfreight. The shipper telephones the nearest REA office and makes all arrangements. Only one shipping document, in addition to customary government forms, need be prepared.

THROUGHOUT the nation, to Mexico and to Europe, airfreight today is the materialization of yesterday's predictions in transportation.

Airfreight is a reality for the commercial user. It is the answer to the visions of foresighted shippers, who could see where their advantages lay with speedy, uninterrupted transportation.

The advent of commercial airfreight was ironical to two little boys pictured in a cartoon in the *Christian Science Monitor,* Sept., 1944. The cartoon, inspired by a shipment of spinach from southern California to mid-western markets inaugurating American airfreight business, showed the boys discussing the news article on the inauguration of airfreight.





Above: Special garment containers safeguard freshness of fashions. Right: Fork trucks are useful for loading into high cargo hatches.

Spinach is First

"Will you look at this!" said one little boy. "A wonderful new idea, and what do they do with it? Haul spinach!"

Maybe to some of us, too, it is ironical that spinach should capture the honors of being a "first" in airfreight. But behind this humor and history making in airfreight is a deep significance to producer and consumer.

A shipper had reached his market by direct transportation. His brand name, never before possible on this particular product, was carried into the home of the consumer and the transportation was accomplished with no loss because of spoilage. The consumer had obtained a garden-fresh vegetable that was not available to him previously, and a vegetable that was ready to cook without other preparation.

Transportation that is feasible on spinach and that, from a practical standpoint is economically sound, could be used as well with other perishables such as fresh strawberries and fresh apricots. Cauliflower, with the outside coverings stripped off, would reduce the package from a 2 lb. 8 oz. head to an edible portion of 1 lb. 4 oz., with a weight saving of 50 percent.

With the advent of better merchandising on the part of the retailer, such as refrigerated display cabinets, a whole range of counter-fresh, ready-to-prepare merchandise will be made available to the consumer. From now on, a woman can ask, instead of for "spinach," for a particular brand, such as "Jones California" spinach, and thus obtain exactly the product she desires.

Airfreight had its origin and proving ground in the war. In the great scene of battle are pictures of air transport, paratroopers and their supplies moving on new

(*Continued on page* 82)

Explaining Your Products To Foreign Users



The literature that goes abroad with American products, particularly complicated equipment, is of cardinal importance. Few American manufacturers understand what is needed or involved. It is not merely a question of translation but of adaptation of descriptive and technical material to the needs of the users of American products abroad.

By D. G. VAN ACKER



Mr. Van Acker has been a senior foreign language technological consultant at the War Department since 1942. Before that he was on the staff of "En Guardia" published by the Coordinator of Inter American Affairs. Before the war, he was a correspondent with the Columbia Broadcasting System in Paris.

MANY articles have been written since the end of the war on how and why the United States would take its place among the leading export nations of the world. Statements have been made to the same effect by a number of experts of unquestionable authority. As a consequence, there has been a tendency on the part of some manufacturers to regard this possibility as one of those inevitable developments for which one merely has to sit back and wait.

Foreign trade prosperity for the United States is not "just around the corner." It is with us now. The problem is not how to interest customers all over the world to buy American goods, but rather how to develop and keep this vast market in the years to come.

There are many aspects of this problem which can not be discussed in an article of this length. To the writer, however, there is one which far transcends all others: how can American equipment and products be "explained" adequately to foreign users?

For the last three and one half years, it has been my job, at the War Department, to interpret the operation, use and maintenance of American equipment to Allied technicians. This equipment was not by any means exclusively military. It covered a wide range of products, from elaborate radio circuits to boot and shoe manufacturing equipment; and subjects ranging from notes on abstruse scientific problems to practical bread making; from road building to laboratory techniques.

As a member of a complex organization for which there was no precedent either in private industry or in government I had occasion to form a reasonably clear idea of what kind of printed material has to be given to foreign users of American equipment. To the Translation Branch of the War Department (as this organization was named, for lack of a better title; for it did far more than just translation) the difference between success and failure did not mean a certain number of repeat orders from pleased customers or cancellations, it meant either smooth coordination between Allied and U. S. fighting men, or confusion and attendant casualties. It was essential that Allied users of American equipment should know how to handle and service it.

This is exactly what has to be done now by private industry, if foreign users of its products are to become fully familiar with them and so prefer them to the products of other countries. While some United States products unquestionably have the edge over similar articles from other countries advertising claims are not always sustained by the product. It must be remembered that when we say

(*Continued on page* 106)

Unit Load Container

(*Continued from page* 39)

upper corners of the container to permit the legs of a superimposed container to nest securely therein, and thus enable shipboard stacking of at least two containers and wharf and terminal stacking of two or three. The container height finally decided upon was sufficient to enable a man to stand erect inside while loading.

In the containers which were built in conformance with the foregoing structural requirements, a capacity of 300 cu. ft. was realized, providing a live cargo capacity of 12,000 lb. The structural material selected was mild steel, which in No. 14 gage thickness gave the container a weight of 1,800 lb., and in No. 16 gage, 1,500 lb. The size and weight of the container when loaded permits its handling by a standard 5-ton ship's boom.

Return of Empties

During the early days of experimentation the possibility, in some circumstances, of containers being returned empty was considered and this contingency, since proved relatively unimportant, prompted the development of a knock-down type with an overall knocked-down height of 15½ in. Subsequent experience has indicated that the rigid type will be the more popular as it permits of the loading of a wider variety of commodities in either package, bulk or liquid form, and in thus increasing its usefulness, it decreases the possibility of empty return.

Successful tests have been made with a watertight container having but half the door size of the weatherproofed type already described. The door in this instance is gasketed, and additional locking dogs have been provided to insure a dry cargo when the container is loaded on a ship's deck. Another type is ventilated, having punched-out louvres between corrugations, and is adapted to the installation, by means of suspension, of light aluminum trays for the handling of pineapples and other fruits which cannot be stacked in bulk. A quantity of trays sufficient for 24 containers can be loaded into a single container for the return trip while the other 23 containers are returned loaded.

The first containers constructed were tested in a steamship operation between New York and Puerto Rico and the results judged from every angle, were satisfactory. Merchandise valued at hundreds of thousands of dollars since has been carried without a single claim for pilferage or damage. Marine underwriters, recognizing the importance of the protection afforded, have reduced base rates 50 percent when cargo is loaded by the shipper in a locked container and delivered by him to the wharf.

The dimensions of the container seem thus far to have met all shipping requirements. These dimensions are: length, 7 ft. 9 in., width, 6 ft. 9 in., height with legs down, 7 ft. 5 in. and with legs folded, 6 ft. 10½ in. While in some circumstances it may be advisable to vary the height for extra heavy cargo stowage and thus permit greater utilization of ships' holds, it has seemed of greater importance to standardize on the floor dimensions in order that the container can be handled by the type of equipment standard with steamship operators. This enables quick and easy interchange between steamship lines, barge lines, railroads and highway carriers.

A fork truck can be used on piers in connection with the containers.

The name "safeway" has been given to the new containers and to the corporation which will own and lease them on a per diem basis to steamship lines and other transportation agencies. As the use of these containers increases, Safeway Corp. will provide a control system to enhance their usefulness and economy and which will permit interchanging from one type of transportation to another. A rental of 30c. per day for each container has been established.

Many Economies

The new containers result in substantial operating economies for a number of reasons. In the first place, they permit the use of platform trucks in place of closed body trucks. A container can be loaded from such a truck much faster than would be the case if the individual items it contains, amounting to approximately half a truckload, were handled separately.

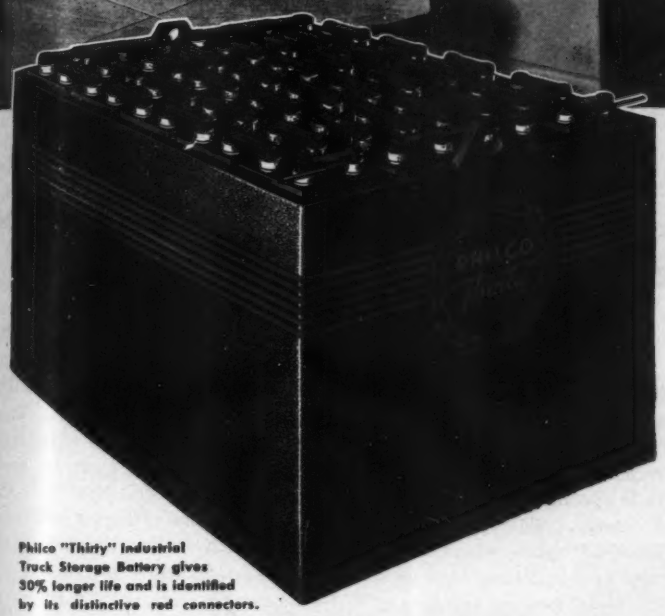
The steamship operator, however, is the one who will benefit most by the new development. Tests made under commercial conditions indicate that in the case of average weight merchandise which does not fill the container to its deadweight capacity, 12 containers can be handled out of a hatch in 45 min. with ordinary ship's gear. This amounts to a mixed cargo tonnage of between 75 and 100 tons per hr. As individual pieces of cargo, this same tonnage would be handled, according to statistics compiled by steamship companies, at the rate of approximately 25 cu. ft. per hr. The saving in labor costs amounts to $1.34 per ton for heavy cargo and $5 per ton for light or balloon cargo. This does not take into account the economies effected at the receiving terminal in the matter of checking in, sorting and handling.

Analysis of a projected container operation for a Cl-A type ship loading 147 light cargo containers in the square hatch indicates a saving in time of 42¾ hr. With heavy cargo, the saving would amount to 29 hr. which represents a saving in labor costs of $26.50 per hr. These figures are predicated on actual operations, using standard ships equipped with convention gears.

Magnesium Conveyor

Production of a lightweight magnesium roller-type gravity conveyor has been resumed by Jervis B. Webb Co., Detroit. The 10 ft. portable conveyor weights 68 lb., compared with 160 lb. for a similar steel unit. The strength of both units is identical. The magnesium conveyor was developed by the Webb Co. in cooperation with Dow Chemical Co., Midland, Mich., prior to the war, but demands for magnesium by the armed forces interrupted production.





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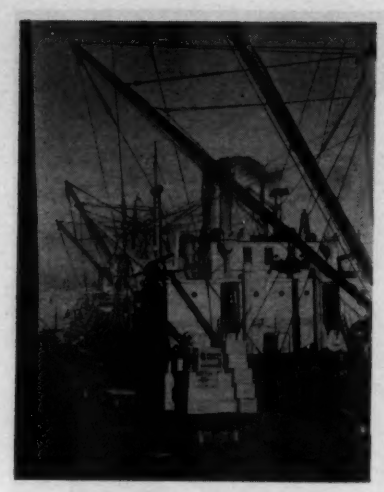
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The West Coast P

Left: General cargo is swung aboard a steamer at a busy west coast port. Below: Panoramic view, looking northeast, of the port of San Pedro, Cal.



TUESDAY, Aug. 14, 1945, opened a new era in the annals of American merchant shipping history. It was on V-J day that the United States was given her third big opportunity in the field of world shipping. With it came a complex memorandum of very real and crucial problems, the early and correct solution of which will key the whole future of our shipping industry.

Among the most important of postwar "hot spots" are the principal Pacific coast ports, namely; Los Angeles-Long Beach, San Francisco-Oakland, Portland, and Seattle-Tacoma. For a real understanding of the place of these ports in the nation's economy, it is necessary to approach the future with a realization of what has been done to date in their construction, the utilization of their resources, and the estal lishment of fair rates for adequate services. The facilities of these ports, and the changing nature of the areas which they serve, together with their place in the world trade spotlight should be understood clearly. All these factors must guide the hands which make regulations and policies.

Already, developments indicate a cautious return to the resumption of domestic trade between the west coast and all other major ports of the nation. Intercoastal and Pacific coastwise movements have been reestablished after wartime interruption, the former in Nov., 1945, under War Shipping Administration auspices, and the latter on Feb. 16, 1946. The operators of both services were in trouble before they had made even a fair beginning. The transcontinental rail lines emerged from the war geared for competition. Operating revenues were big enough to justify the holding in abeyance of a general 6 percent rate increase on inland traffic, which had been granted early in the war. Railroads still have not put into effect these granted increases. Intercoastal shipping is moving on light schedules, and operators are hoping that some action soon will be taken to increase rail structures so that competitive water rates can be boosted accordingly. Labor costs of water carriers have mounted during war years far more rapidly than those of the rails. The rails now face increased costs because of labor demands, which may tend to swing the ratio into something like prewar relationships.

Another problem of domestic steamship companies is lumber transportation. First it was the labor tie-up in this big northwest industry that sent intercoastal ships eastbound floating too high. That made the round trip too expensive, since rates are based on an eastbound lumber cargo. Now it is the gaping stretches of logged-off coast lands, which makes the long haul by rail to dockside a tremendous burden on through eastbound intercoastal water rates. This retreat of natural resources is one of the most serious difficulties so far encountered by domestic water lines.

Timber Cargoes

"The intercoastal and coastwise operators are optimistic in that we feel that other allied industries manufacturing pulpwood and paper articles will increase in the northwest, to take up the slack as reduction in straight timber cargoes becomes more sharply felt," states George Bushnell, Los Angeles dis-

Planned expansion and improvement in the harbors of Seattle, Portland, San Francisco, Los Angeles and San Diego will go far toward extending the influence of the Pacific coast in its relationship with a reawakening commercial world overseas.

Port Picture



By GLENN B. EASTBURN

Manager, Transportation Dept.
Los Angeles Chamber of Commerce

trict manager, McCormick Steamship Division, Pope and Talbot, Inc., speaking for the trade in reply to this pertinent question of backhaul lading.

Present plans of off-shore operators in the west coast port areas for increased schedules are being translated into action. As an example, Transmarine Navigation Corp. has made an auspicious start with the inauguration of the new British flag Stan Line into trans-Pacific service out of Los Angeles harbor.

Resumed Sailings

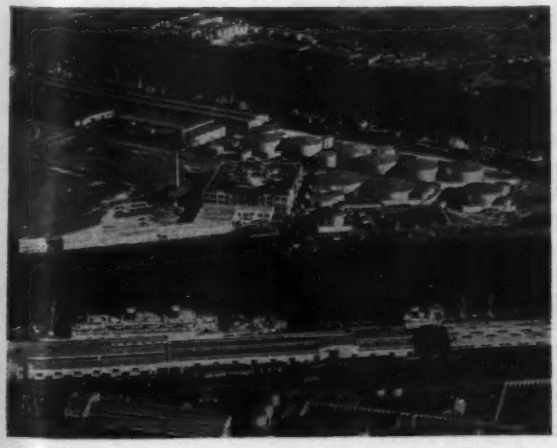
During the early months of the year most prewar operators tossed their hats in the ring and announced resumed sailings, some with new vessels built for commercial operation during the last period of the war. It soon became evident, from the tenor of their advertising, that with a return to private control there would be a great scramble for active foreign shipping on increased frequency of schedule. Among the off-shore lines which had announced their return to commercial business by Feb. 1 were American-Manchurian, American President, Blue Star, De La Rama, Fruit Express, Furness, Grace, Holland-America, Interocean, Java-Pacific, Johnson, Klaveness, Knutsen, Luckenbach, Maersk, Matson, Moore-McCormack, Panama Pacific, Royal Mail, Salen, Silver-Java Pacific, Silver Line, Union Steamship, and Westfal-Larsen. Others anticipate early return to trade.

Rate parity, which always has been a question of life or death to the export of commodities from any competitive port, looms in the distance as a disturbing factor. Surcharges set up by the WSA which are now being scrapped, are being replaced systematically by substantial rate increases with only a few exceptions. The increases are by no means equal in their effect on foreign markets. New rate structures have revamped completely the relationship of competition between Atlantic and Gulf and the Pacific ports.

Explaining the reason for increases in off-shore rates, William A. St. Amant, Los Angeles manager, W. R. Grace & Co., offered the following statement: "During the war, merchant seamen were compensated for personal risk by a system of bonuses. At the conclusion of the war the bonuses were

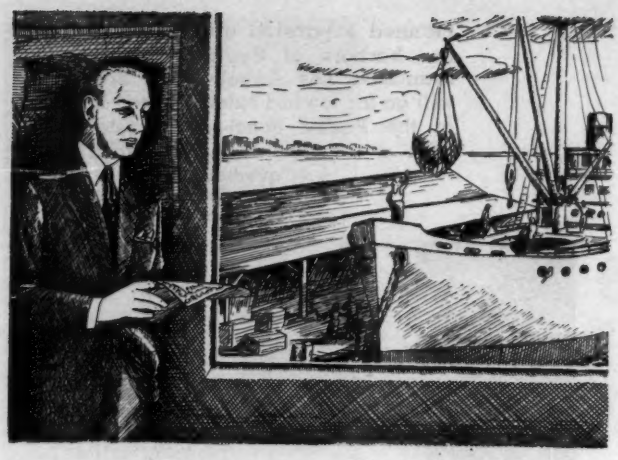
(*Continued on page* 101)

Tankers loading oil are a common sight on the west coast.





Terminal Is. facilities shown at left, San Pedro at right.



Marine insurance contracts, unlike those relating to fire and casualty coverage, are not subject to close governmental or company regulations and may be drawn in widely varying form to cover a shipper's specific needs.

By CHARLES F. RUPPRECHT

Insurance Analyst

Shippers' Needs Dictate Marine Insurance Policies

THE earliest known insurance policy, comparable with modern practice, was issued to a London merchant in the middle of the 17th century against the entire loss of his vessel by perils of the sea. The first fire insurance policy was written at a considerably later date, toward the close of the same century.

Basically, the wording of a present day marine insurance contract remains the same as that of the originally drawn contract but, of course, new clauses have been added and wording changed to conform to existing needs and requirements. The phraseology of modern contracts have been tested by time, custom and court action and the shipper of today receives a broad contract protecting him against any hazard.

Marine insurance contracts are not subject to any restrictive regulation either by the government or the companies and the insured is able to get the kind of contract which, in his opinion, will cover his particular requirements. He does not need to conform, as he does in the case of fire and casualty insurance, to a printed form applicable to shippers generally.

Marine insurance usually is accepted to mean "ocean marine" insurance and is understood to cover ships and their cargoes while in course of a voyage, particularly on the high seas. Since the 19th century, however, a division of marine insurance, known as "inland marine," was developed to cover cargoes shipped by rail and other types of land transportation. Company underwriters operating in the ocean marine catagory still write almost all the insurance on cargo shipped by vessels in domestic and foreign trade. An inland marine insurance contract, covering on-land shipments also may include water coverage on domestic or inland rivers and lakes. Conversely, an ocean marine insurance contract is no longer confined to covering a water voyage. It includes protection of merchandise or cargo once it leaves the shipper's premises, while on an inland conveyance enroute to a pier, while on shipboard, or while being transported on a land conveyance to its final destination. This type of contract is applicable to merchandise forwarded from the shipper's premises to destination or to merchandise purchased in a foreign land during the course of its transportation to the consignee's premises.

A marine insurance contract, unlike a fire and casualty contract, has no termination date; it continues in force until it is cancelled by the shipper or the underwriter. During its life, all shipments must be regularly reported. In response the shipper receives through his broker or agent company acknowledgment in the form of a certificate or endorsement indicating the rate and premium charge for each lot of merchandise shipped or received.

Rates are based on the following considerations: 1. The type of merchandise and its susceptibility to damage from various causes. 2. The circumstances of the voyage, including cargo's destination and the kinds of conveyances to be used.

The hazards insured against are described as perils on shore, perils of the sea and perils on the sea. The coverage in underwriter's phraseology, includes: 1. All risks. 2. With particular average. 3. Free of particular average. 4. Total loss only.

Basic rates are calculated and percentages are added to cover any or all of the conditions outlined. Basic rates are divided into some

(*Continued on page* 96)

THE NATIONAL TERMINALS CORPORATION



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These are times that demand the most modern cost-saving handling equipment and other facilities for package or bulk freight.

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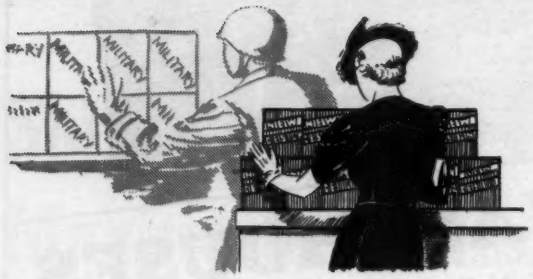


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Adoption vs. Adaptation of Military Packing Techniques



To avoid the penalties of adopting military packing techniques without adapting them to commercial practice, it would pay executives to plan their export containers according to the principles of industrial design.

By MARTIN ULLMAN

Industrial Design Consultant

MILITARY logistics and commercial distribution have much in common. However, the business man who would put into practice methods of procedure developed by the armed forces must remember one significant difference.

In logistics, merchandising doesn't count.

In commercial distribution, the most perfect technological flow of merchandise from producer to marketing outlet will run into the stone wall of consumer indifference unless the factor of merchandising is considered.

Merchandising is a particularly vital consideration for the exporter who plans to make use of wartime packing developments in his postwar shipping container. The exporter cannot adopt military techniques successfully until he has adapted them to commercial practice.

What would be the result, for example, if a manufacturer of typewriters shipped his product overseas in a container adopted from the military, but not adapted to civilian buying habits? The manufacturer might enclose his product in a moisture-proof barrier, and he might make use of one of the new desiccants, such as silica gel, to absorb any moisture remaining in the barrier, or any which might seep through.

Two Strikes

His product probably would arrive abroad in perfect condition. Nevertheless it would have two strikes against it. There would be nothing on the carton to distinguish the product from competitive brands, and nothing to make the carton more atractive or more useful to the consumer than competitive cartons. In all probability, the cost of the product to the foreign buyer would be higher than necessary, because military packing is expensive packing.

Uncle Sam has a vast pocket book. He could afford, during the war, to indulge in overpacking. Even the most prosperous industrialist, however, can't afford to indulge in bad business.

To avoid the penalties of adoption without adaptation, it would pay exporters to plan their containers according to the principles of industrial design. A skilled industrial designer is familiar with all wartime packing developments. He knows which ones to call upon in each particular instance. Most important of all, he has a "merchandising mind." The container he suggests will catch the eye of the consumer. It will be an economical container, because packing economies are reflected in prices, and attractive prices, as well as attractive containers, are part of successful merchandising.

Unfortunately, many executives who have been schooled in production and finance, but not in distribution, wait too long before consulting an industrial designer. These executives look upon the industrial designer as a "trouble shooter." This designation would be satisfactory, except for the fact that it causes business men to wait until they are in trouble before calling in an industrial designer.

Insurance underwriters can prove to management that the most profitable time to fight fire is before it begins. Industrial designers too have facts and figures which demonstrate that it is more profit-

(*Continued on page* 94)



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Note these advantages offered by Mead Johnson Terminal Corp., at Evansville, Ind.: Fire Resistant building. Carload facilities. Motor Freight Terminal. Ninety thousand sq. ft. on one floor (no floor load limit). Fully sprinklered. A.D.T. watch service. Insurance rate 14.7c per $100.00 valuation. Car spotting capacity of 64 cars simultaneously, plus sixteen double doors to facilitate loading and unloading motor trucks. Two high-speed 52 ft. span 10-ton capacity travelling overhead electric cranes. Electric lift trucks with skid platforms and pallet system.

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MEAD JOHNSON TERMINAL CORP.

EVANSVILLE, INDIANA

"Where Waterway .. Railway .. Highway Meet"

Merchant Marine . . .

(*Continued from page* 29)

security. It is submitted that a principle to guide our merchant marine policy can be bottomed on this ground only.

Except as our ship-disposal policies following World War I contributed to a low capital cost for American operators, enabling them to compete better with foreign operators (the instability of disposal pricing defeated this as was clearly shown by the virtual absence of American bottoms in foreign trade by the mid-20s), there were only two attempts made in the period between the two wars to establish a long-range maritime policy.

The first was the Jones-White Act of 1928. This provided a subvention for carrying the mails on certain selected essential trade routes. The rate of subvention increased with the size and speed of the ships. The effect was to encourage the construction of fast combination passenger - and - cargo liners, and to keep in operation a number of older vessels of the same general type. Recognizing the limited objectives of that legislation, it was highly successful. It did not, however, result in construction of any slower cargo ships, which are an equally important part of a well-balanced merchant marine. In fact, less than a dozen ocean-going cargo ships were laid down in American yards in the period between 1920 and 1936.

The second forward step was taken when the 1928 Act was repealed and superseded by the 1936 Act with far broader objectives. This provided among other things:

1. An assay of the nationally strategic trade routes.

2. A construction-differential subsidy for the "chosen instrument" carriers on each of these selected trade routes, intended to equalize domestic and foreign building costs.

3. An operating-differential subsidy for the "chosen instrument" carriers on the selected trade routes intended to equalize domestic and foreign operating costs.

These subsidies, since they were not so directly graded on size and speed resulted in an important addition of modern fast cargo ships, during the period between 1936 and the fateful Dec. 7, 1941.

Was this addition sufficient to provide us with the necessary shipping to meet the first and imperative necessities of a war? Clearly, it was not. Granted that it may be unnecessary and even undesirable that we have a merchant marine in peacetime operation quantitatively adequate to a full war need, it remains seemingly unchallengable that we require sufficient shipping under our control and in operation to meet the immediate necessities of a national emergency. This we did not have in 1941. A reserve fleet in lay-up can meet only a secondary need, since it requires time to man and outfit. While it is unprovable to what extent our lack of adequate shipping in operation in 1941 contributed to unnecessary loss of American lives and dollars, it is certain that had we had adequate shipping then available there would have been material saving on both accounts, through shortening of the war.

The question must then follow as to whether the fault lies in the legislation, or in too narrow an administration thereof in the prewar years. Or should the blame really be assigned to our lack of a clear national policy to guide the administration? The latter appears to be the case.

The Ship-Disposal Bill must be recognized for what it is, namely, a liquidation measure. It offers no hope of accomplishing what the administration of the 1936 Act failed to accomplish for lack of a clearly defined and well thought out national policy. It meets only part of the deterrent to operation of an adequate merchant marine. True, the Disposal Bill makes available to all American operators the practical equivalent of the construction-differential subsidy of the 1936 Act; but unless this is backed up by a program of operating subsidies under the 1936 Act it will prove futile, and will not even serve its purposes as a liquidation measure.

We spent approximately $15 billion to build the wartime fleet under dire necessity. Nor was this all the cost of our shipping unpreparedness. The added costs of prolongation of the war because of inadequate shipping, plus the delay to production of other war materiel through the competition of our war-time ship-building program were immeasurable.

The annual cost of servicing and retiring that $15 billion expense over a 25-year period (the maximum practical life of the ships) and at the most favorable governmental rate of interest will exceed $750,000,000. Even after allowing for the most optimistic liquidation returns the net annual cost will well exceed $600,000,000.

(*Continued on page* 88)

Reserve Merchant Fleet

CREATION of a Reserve Fleet Division, to have charge of the acquisition and maintenance of all vessels not needed in operation of the post-war American Merchant Marine but required by national security, was announced by the United States Maritime Commission. It has already taken over functions of a like division of the War Shipping Administration.

Acting Director of the new division is Frank E. Hickey while Ernest W. Gorman is acting assistant director. The Reserve Fleet already under its jurisdiction and moored in the James River, Va.; Mobile River, Ala.; and Suisun Bay, Cal., numbers nearly 400 vessels of various types.

The duties of the new division will include handling all matters relating to survey, acquisition, development and maintenance of sites where vessels are placed in temporary or permanent Reserve Fleets. It will be responsible for receiving from the War Shipping Administration and other agencies vessels intended for those fleets and the prescribed methods for the maintenance and preservation of the vessels in sanctuary.

Safety Drive

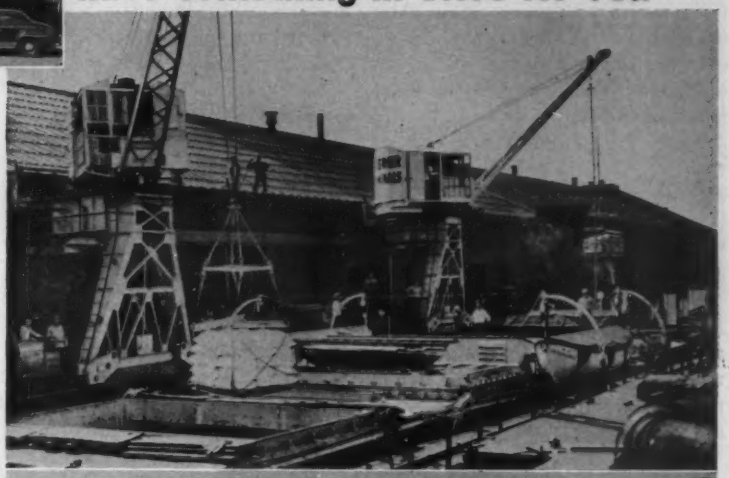
Americans will be called upon to rally behind the Green Cross for Safety next month, when the National Safety Council launches a nationwide fund-raising campaign aimed at winning general public support of its far-reaching accident prevention work.

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Electric traveling gantry and gasoline crawler cranes as well as completely motorized (tractor trailer) equipment and mechanized work trucks for fast and efficient handling of any type of top or side hatch vessels.

⚓ PERSONNEL,—

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See our advertisement under Buffalo, N. Y., page 126

THE LEDERER TERMINAL WAREHOUSE CO.

GENERAL OFFICES: LEDERER TERMINAL BUILDING — FOOT OF EAST NINTH ST., CLEVELAND, OHIO

Potential River Traffic

(*Continued from page* 30)

Barge Lines are planning on getting into that business again after the war, and as far as they can ascertain, the old business will be available again as well as much new commerce.

From what traffic managers say, there is going to be definite expansion in the inland waterway system and much more tonnage of all kinds can be expected. If this is the case there is room for other operators to enter the field, and it is believed that the more people there are out working for business, the more business there will be, which ultimately will help all barge operators.

2. Of all the contacts made, not over two per cent stated that they were not even considering using barge lines. Many believed it would be several years before they could produce any volume of business for the waterways. Nearly all of the traffic managers said they had looked into the feasibility of using water transportation, or were going to do so when they knew what to expect in the way of business and location of markets. In this connection, it should not be overlooked that industry is becoming more and more scattered. In time, this will eliminate some transportation, both in bulk commodities or raw materials as well as in the finished products field.

3. Inland waterway carriers will have to overcome the attitude of a large majority of traffic managers, at least 75 per cent of whom are former railroad men. Habit is strong with them, and they lean toward rail carriers when considering shipping problems. It may be necessary in many instances for water carriers to concentrate their selling efforts on sales managers and others in a managerial capacity with the larger companies in order to have the value of inland water transportation given sympathetic consideration.

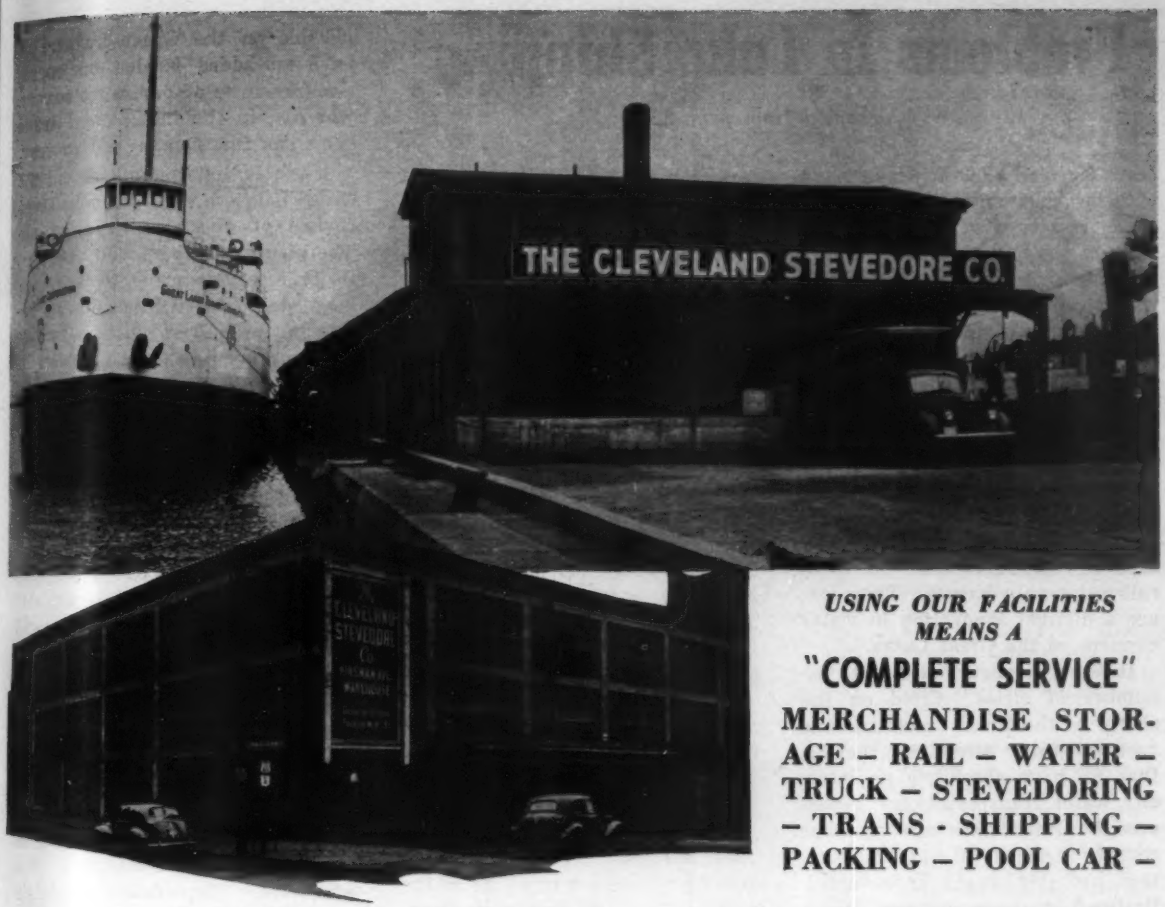
4. Nearly always the only selling point a water carrier has is the rate. This point must be pushed to the limit. Rates as now published by inland water carriers have drawn much criticism by some of the outstanding traffic men interviewed. They believe that water carriers should make the rates "to move the traffic," and not arbitrarily base their rates on carload freight at approximately 60 per cent of the rail rate. Of course, rates for bulk goods are made on a different basis; but many of these rates are not "made" in the sense that they should be according to many shippers. In other words, for many commodities, the barge minimums are too high, and because of the heavy transfer costs incurred by using water carriers less than barge load shippers have not found it practical to ship by water.

5. There should be some incentive to get shippers to move goods in larger quantities. For example, rates and minimums could be based on a graduated scale making it cheaper to ship in larger units, but not necesarily in barge loads. There should be a rate made for 20 tons, a little cheaper rate for 40 tons, and so on until the rate would equal that for a barge load. This would encourage traffic men to ship in larger quantities; to try to pool their shipments; and would make it much easier for the water carriers to handle the traffic.

6. Several traffic men believe that inland water carriers are too slow a form of transportation to fit into their schemes of marketing and distribution. Therefore, until management approves of changing present marketing methods, water carriers will obtain little business from the companies who feel that speed in transit is necessary. This applies mostly to package freight For this type of cargo loading and unloading facilities are lacking in many of the large cities. However, this probably will be taken care of in time either by the government or individual cities. In handling package freight, more labor for loading and unloading is necessary as well as specialized handling equipment. Some large companies that ship in raw materials by water have built their own terminal facilities for handling package freight, but it is not practical for shippers of occasional lots of package freight to go to this expense. It is up to the water carriers or the cities to make these terminal facilities available.

Statistical Summary of Interviews on Water Transportation

Type of Commodity	Firms Interviewed	Will Use Water	Will Not Use Water	Uncertain
Grain	11	6	2	3
Coal	17	14	3	—
Chemicals	17	11	3	3
Petroleum	6	4	1	1
Farm Equipment	2	2	—	—
Steel and Products	28	23	3	2
Soap	6	6	—	—
Machinery	11	3	7	1
Cement	6	3	3	—
Building Materials	5	3	2	—
Minerals	4	1	1	2
Tin	3	2	1	—
Coffee	5	5	—	—
Burlap	2	2	—	—
Roofing Products	2	2	—	—
Sugar and Molasses	3	3	—	—
Paper	7	5	2	—
Beer	4	3	—	1
Distillery Products	1	1	—	—
Aluminum	1	—	1	—
Plate Glass	2	2	—	—
Refractories	3	—	3	—
Grocery Products	1	1	—	—
Miscellaneous	10	5	4	1
Total	157	107	36	14



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THE CLEVELAND STEVEDORE COMPANY

Dock 22, Foot of W. 9th St.
CLEVELAND OHIO

Problems in Lake Shipping

(*Continued from page* 32)

fleets of small 3,000-ton lake boats with large hatches. Almost all of these vessels were taken off the lakes at the outset of war. Under present conditions, it is doubtful whether any of them could be operated on a compensatory basis. Larger vessels carrying about 5,000 tons have been remodeled to compete for this type of tonnage. These larger carriers are efficient and adapted for such movements and have cranes and handling gear affixed to their decks.

They are geared for almost any kind of operation from off dock, railroad cars or barges. They, too, are a distinct innovation in water carriers on the Great Lakes.

It seems strange that despite the number of cities located on the shores of the Great Lakes and the vast tributary territories thereto, that we have absolutely no intercity water transportation. Transpose the Great Lakes into any other country in the world and this situation probably would be reversed. Railroad tonnage between these lake ports has constantly grown, while water business has diminished.

An effort was made over a period of years before the war to develop direct motorship transportation without trans-shipment between such cities as Chicago, Milwaukee and other western lake ports to the eastern seaboard. These motorships pioneered new trade routes, using the Erie Barge Canal from Oswego to New York. Their efficiency and practicability was proved. The war also eliminated these carriers. They supplied a through fast transit of freight without the necessity of transshipment.

It is my belief they are the foundation upon which new, improved motorships could be constructed to serve the requirements of these markets. Erie Canal drafts have been deepened and it is hoped that bridge clearances will be modified so that larger vessels can be accommodated. Some industries, such as Ford Motor Co. operated such motorships, and it is reasonable to believe that others will adopt this economical form of water transit.

Contemplated deeper drafts on the Erie Canal, together with new, improved methods of ship construction should make it possible to construct motorships to carry approximately 3,000 net tons, a carrying capacity that should make for more economical water movement of freight. Certainly those interested in this business should give serious thought to such transportation possibilities. It is hoped that present certified motorship operators will re-engage in this traffic and reestablish these trade routes.

Rail Rates

The question is constantly asked why our water tonnage has diminished. Certain basic reasons are evident, one being consistent railroad rate reductions made at great losses to themselves with severe fourth section rate cuts on the basis of meeting "water competition." Along with these reduced rail rates have been increased vessel operating expenses, as well as higher terminal costs to all lake ports.

The same underlying reasons which make it difficult for intercoastal carriers to function are applicable on the Great Lakes. We have an added burden on operations, because of our short season, whereas, in the intercoastal trade ships can function the entire year.

It is felt that we will see, on the Great Lakes, a slow but consistent revival of direct ocean shipping. The pioneering lines who operated in this service prior to the war have stated their intention to reinaugurate their services effective with the opening of the season of navigation in 1946. True, many of their vessels were sunk, but their contemplated schedules are imposing.

These scheduled direct overseas carriers have established lake ports as ocean ports. They will do much to improve the position of our lake terminals. Other new direct services, especially to the Baltic, will be in effect.

Despite the handicaps of the present limited draft of water in the locks and connecting waters of the St. Lawrence River, no reason exists why these small vessels will not greatly increase their Great Lakes sailings. The pioneering in this ocean trade route has been completed. Too much emphasis cannot be placed on the significance and value of these direct overseas services to the Great Lakes.

Certainly, if the St. Lawrence Seaway should become a reality, its impact on the Great Lakes and the entire midwest will be a vital factor of economic importance. It is of importance to shippers and everyone interested in the use of all of our waterways. Without tonnage these waterways cannot function. Their perpetuation is a vital "must" for our nation.

We want to see new and improved barge service on the Erie Canal and want a quicker and more economical interchange of barge canal freight in and out of Great Lakes ships. We must see a revived Great Lakes vessel business.

It is essential to the commerce of the midwest. Most of all, we must have a sound approach to the maintenance of a domestic merchant marine and our legislators must understand that this implies a rational rate policy that will permit profitable freight movements.

Low Prices

The American tradition is that American producers can pay the highest wages in the world for the equivalent work and still aim to sell the product at the lowest possible price to you and me. America's whole industrial life is set up on that basis.

The American gamble is to first name a low price, and then try to sell enough goods because of the low price, to make the business successful for everyone.

Absolute confidence in that idea, willingness to back it to the limit and stick to it, are what put the goods we have in our hands and made America's volume production possible.

HENRY J. TAYLOR, noted economist, author and journalist, in a recent broadcast for General Motors Corp.

Washington . . .

(*Continued from page* 34)

Lea of California, to conduct a survey of the whole field of inland transportation, in order to determine the scope of a proposed revision of the Interstate Commerce Act. The survey will be based upon the questionnaire circulated last year by the Interstate and Foreign Commerce Committee. The first step will be an analysis of the returns, and will be amplified by field studies.

Obviously, one of the primary impulses for the proceeding springs from the urge to consolidate some truck, air, and railroad facilities. The study will be sweeping, and it is anticipated there will be some effort to adjust the present rate structure to place inland waterway carriers on an equal footing with other transportation services. Even in the ICC itself there is vigorous thought that the present classification by which inland water freight rates are fixed at 80 percent of the railroad rates is not equitable.

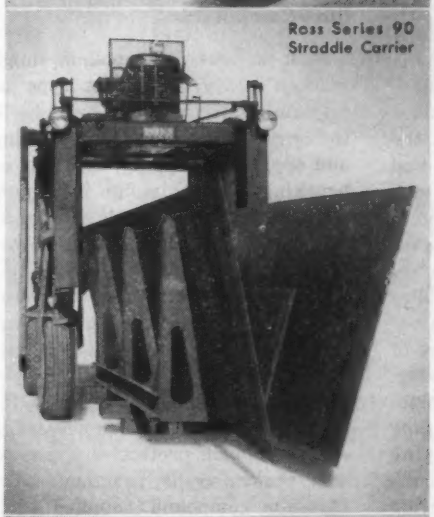
It is reliably reported there is not agreement among the inland waterway operators in regard to amendments which would affect the present exemption of bulk commodities transported by inland waterway carriers. The Interstate Commerce Act now does not apply to bulk commodities whose nature is such that they may be pumped or scooped and when not more than three different commodities are shipped in a vessel at one time. The debate among water carriers apparently turns upon broadening of the Act in the terms that apply to exemptions which do not include certain types of bulk packages and merchandise, moved at low rates.

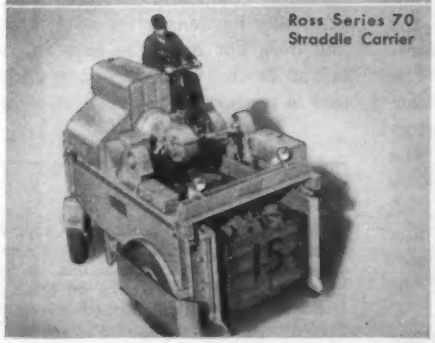
There seems to be some thought, even in the ICC itself, that liberalization would be justified in the regulations for moving such "packaged" goods as heavy machinery for export, farm machinery, trucks, automobiles, and similar bulk objects, that are spatial as well as heavy. The idea seems to be that inland water carriers are placed at an unreasonable disadvantage in the classification of such freight as

(*Continued on page* 79)

Here's What Rely On ROSS Signifies.....


Ross Heavy Duty Lift Truck


Ross Series 90 Straddle Carrier


Ross Series 70 Straddle Carrier

A TIME-TESTED HANDLING SYSTEM — Superiority of The ROSS System of straddle carriers and lift trucks for moving, tiering, loading and unloading materials in unit-loads at lowest cost has been amply demonstrated over a period of more than thirty years.

RUGGED WORK-PROVEN MACHINES — The exceptionally long trouble-free life of ROSS Straddle Carriers and Lift Trucks under all kinds of operating conditions has won wide acclaim. Their outstanding performance and low operating costs mean greatly reduced materials-handling costs for their owners.

AN UNEXCELLED PARTS SERVICE — *Speed* and *Efficiency* are watchwords of the ROSS Service Department. It's this fast service that helps keep down-time of ROSS Straddle Carriers and Lift Trucks to a minimum and enables them to establish unequalled performance records.

UNPARALLELED EXPERIENCE In the 32 years since the world's *first* straddle carrier — a ROSS — was put into use, practically every improvement in straddle carriers and heavy duty lift trucks has been initiated and developed by ROSS — improvements which have always meant big reductions in operating and materials-handling expense.

For detailed descriptions of ROSS Straddle Carriers and heavy duty Lift Trucks, write for ROSS BULLETIN DA-46.

The ROSS *System*

World's most complete line of heavy duty straddle carriers and lift trucks.

THE ROSS CARRIER COMPANY • Benton Harbor, Michigan
Direct Factory Branches and Distributors Throughout the United States and Canada

ROSS
HEAVY DUTY MATERIALS-HANDLING EQUIPMENT

Corrosion Control Techniques

(*Continued from page* 47)

corrosion compounds or rust-preventive oils call for specific equipment.

Cleaning solvents and other immersion type cleansers require vats (in many instances, equipped for heating) with wire dipping baskets for small parts. Sometimes a product may call for passage on a conveyor belt through spray baths for certain emulsion or alkaline methods of cleaning. The part then passes through drying ovens, or compressed air blow-off units play against the part. The cleaning operation may have two or three stations: first, the heavy cleaning; then, rinsing in a solvent which is always kept clean and, finally, where necessary, cleaning for removal of perspiration residue. In effect, the equipment should be designed and arranged to permit the entire task of cleaning, rinsing and drying to come as a single automatic operation.

For larger parts and assemblies such as a stationary engine or wheeled vehicle, different types of equipment are needed for cleaning, drying and application of the corrosion preventives. Vacuum cleaning apparatus, hose and nozzle playing of the cleaning solutions, compressed dry, heated air for drying and spray grease or oil guns for applying the compound or rust-preventives frequently are used. The larger and more complex the item being prepared for long-time storage or export water shipment, the more it is necessary to intersperse some primitive, direct methods such as using handbrushes and wiping cloths in cleaning, and paint brushes for the application of the preventive.

Either specification or judgment helps to decide the kind of corrosion preventive to be applied. There is no one all-purpose compound. Actually, the wrong preservative may damage the surface to which it is applied. In fact, it is important to know that ordinary lubricating oils and greases, as well as straight mineral oil compounds, are not satisfactory preservatives. Complexity of construction also affects choice of preservative. Also the possibility of direct damage, as with electrical connections, leather or textile fabrications; necessity for ease of removal; difficulties of application and extent of exposure and degree of preservation required, may modify the choice of a preservative. Finally, merchandise in ordinary domestic distribution channels may call for a different preserving job than the same material being packed for export.

Rust Compounds

Rust-preventive compounds range from a heavy, thick-film type of material which must be brought to the right consistency by heating and applied by dipping, spraying or brushing, to a thin film compound which requires no heating and may be applied, in addition to other methods, by simple "flow coating." Different grades of the compound calling for preheating give hard, medium, soft and intermediate thick-film coating depending upon the abrasion resistance desired, the length of time protection necessary, and how much protective wrapping and packaging is practical. The thin-film compound (applied cold) gradually hardens after application and does not have the ease of removal as the thick-film compounds and is preferable for certain rough surfaced materials such as bolts, hooks, flywheels and heavy duty coil springs.

In addition to rust-preventive compounds, a packer has several grades of preservatives such as lubricating oils for use on critical, highly finished surfaces, or assemblies with internal operating functions. The lighter oils provide excellent temporary protection against corrosion where parts are under daily observation and the oil film can be wiped off and renewed when necessary. The medium and heavier preservative oils, also, create a nonhardening thin-film of protection with a certain degree of permanence where adequate packaging prevents the removal of the coating during prolonged storage or shipment.

The approved, proper corrosion preventative should be applied in a manner which will coat all surfaces uniformly and continuously. Application by dipping is preferable whenever practical. Dip tanks should be stirred periodically and proper temperature maintained. Thickness of the coating will depend upon temperature as well as length of time of immersion. Therefore, trials must be run in each individual case in order to determine the proper procedure. Care should be taken to avoid trapped air which prevents a continuous coating. Oil passages of parts should be taped with nonhygroscopic, acid-free tape or otherwise plugged before dipping in case they offer recesses from which it would be difficult to remove the preservative.

When applying the compound by spraying, it often is necessary to reduce the consistency by heating. The part should be no colder than room temperature and, if possible, warmer in order to accelerate the "setting" of the coating. When brushing is necessary, the brushes used for preservative application should be cleaned and parts should not be touched with bare hands or dirty gloves. The preservative should be brushed on as evenly and continuously as possible over all metallic surfaces. Flow-coating is the pouring of the preservative (usually an oily type) on a part too large for dipping, or to limited por-

(*Continued on page* 91)

Fruits of Victory

"Bitter experience during the past 20 years makes it crystal clear that a regulated economy with restrictions on the individual, and dictatorship, go hand in hand. We have just finished a war to achieve, in President Truman's words, 'a victory of liberty over tyranny,' which it seems to me, means a victory of a competitive over a highly regulated economy.

"If we mean to retain the fruits of victory, the real job ahead is to make our competitive economy function to its fullest possible extent."

Charles F. Phillips
President
Bates College
Lewiston, Me.

Washington . . .

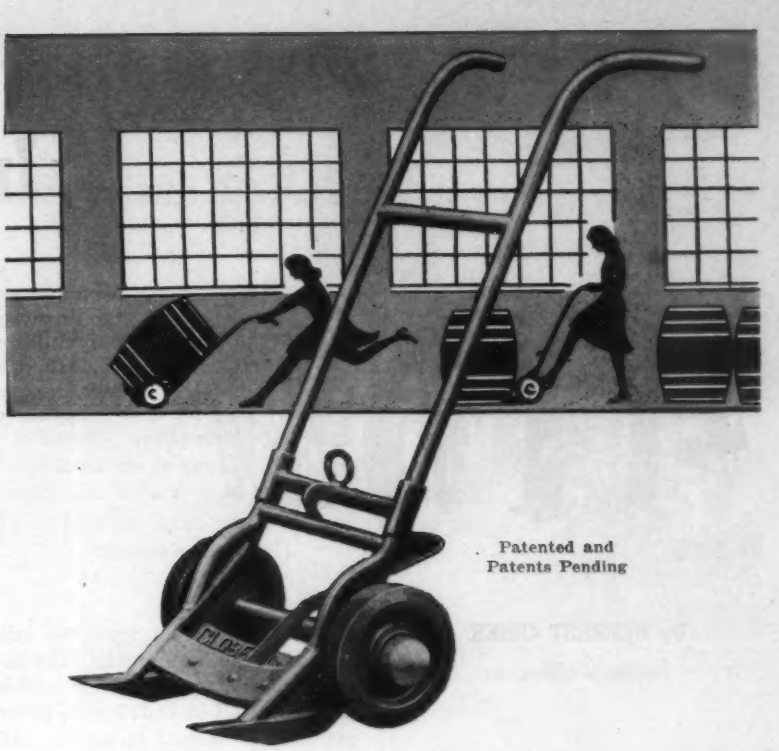
(Continued from page 77)

sugar as coming under the ICC regulation because it is classified as merchandise.

Experts in freight movement, here, forecast inland water carriers are likely to enjoy the same prosperity they enjoyed during the war years. It is regarded as certain that huge tonnage will move over lakes, rivers, and canals, beginning this spring, and continuing at least until the end of 1947.

Late in February the Secretary of Agriculture, Clinton Anderson, passed along word to American farmers that they were expected to produce anything and everything that may spring from the soil, or which may be based upon the soil. They were told that they would be expected to force production. If the prices, under OPA, are a deterrent, the Government apparently expects to provide compensating subsidies. They were told to plan for all of this year and next; and there was an implication that they might be drafted for a longer period. Wheat, in fact all grains, fats, oils, fruit, sugar, meat, innumerable kinds of vegetables, fibers, almost everything a farm can produce, is needed to fill the stupendous food shortage in Europe and Asia.

It is simple logic that the inland water carriers will get all the freight they can transport. We are confronted with a war economy for peace; and as part of this new spurt it will be found that the Civilian Production Administration will set up new controls in channeling many materials and products to those who need them to serve preferential demands. Lumber, paper, metal, foods, and many fabricated materials, are scarce. Chemicals are scarce. Sugar is scarce. The CPA is employing, and plans to employ thousands more, to act as field expediters to be certain the scarce materials, and scarce labor and services and facilities, find their way to those who have priorities.



Patented and Patents Pending

One Person Easily Loads This Globe Truck *Without Lifting!*

Sounds impossible, but the design of this Globe Combination Truck is so skillfully engineered that it almost loads and unloads itself. It's so easy to handle even a girl can quickly and efficiently manhandle heavy barrels, tierces, drums and flat boxes.

Just move the truck up to a barrel, drop the chime hook, pull down the handle . . . and presto . . . it's loaded. This simple routine sets in motion natural forces which do most of the work. By the simple substitution of design for brawn, the handling power of each truck operator is substantially increased. And you also eliminate the need for helpers. One man does it all. By simply reversing the loading procedure, unloading is equally easy.

Perfectly balanced, two-post construction provides extra leverage, and centers the weight of the load over the easy-rolling floor-saver wheels.

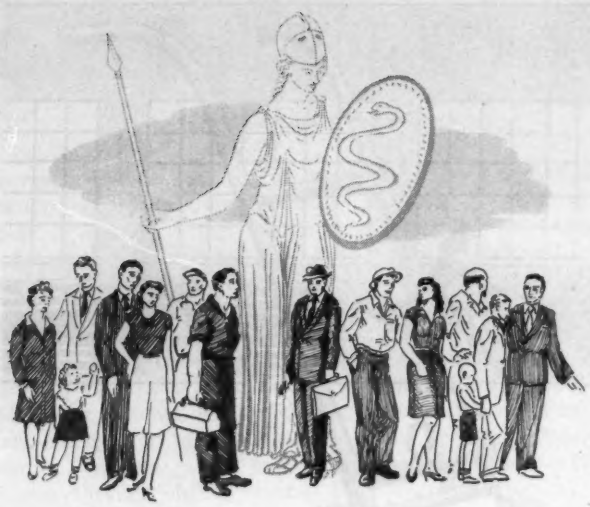
Truckers like this truck for its work-saving features; management appreciates the way it lowers costs. Write today for details and prices.

GLOBE CHICAGO

THE GLOBE COMPANY

4000 PRINCETON AVENUE CHICAGO, ILLINOIS

31 YEARS OF SERVING INDUSTRY WITH EXPERTLY DESIGNED EQUIPMENT



Group Insurance

Management has the opportunity to lead in the development of genuine security for employes through private enterprise. The cost of such a step in time and dollars will be low compared with that of an insurance system operated by the government.

PART 2

By HERBERT GRIER

Insurance Consultant

GROUP plans can be written on the basis of the employer paying all the premium (free group), or on the basis of the employe paying a portion of the premium (contributory group). Obviously, under the contributory plan, less would be required from the employer.

With respect to cost, there is still another factor. The cost of all group coverage is construed to be a deductible item in the determination of liability for federal income taxes. In addition, the payment of a sum to an insurer on behalf of any employe creates substantial benefits for the employe but does not result in increasing his current federal income tax liability. This is most important in the case of corporate executives in the higher tax brackets.

Technically, to place a plan in operation, a master contract is issued to the employer by the insurance company to provide benefits under each type of risk insured. Individual certificates are issued to each employe outlining the benefits he receives. If contributions are made by the employes on a share the cost basis, their portion of the premiums is deducted from the payroll. The basic principle is that a master contract for any coverage is continued in force for one year and renewed annually. The insurer calculates a premium which it expects will be sufficient to cover anticipated claims. If, at the end of the year, the premium is found to have been in excess of claims, a dividend is apportioned, or the policy may be rerated.

Group insurance is not a panacea for other ills which might exist in an organization. It is, however, a sound basis on which a profitable

(*Continued on page* 88)

TABLE I

In Force Dec. 31, 1944*

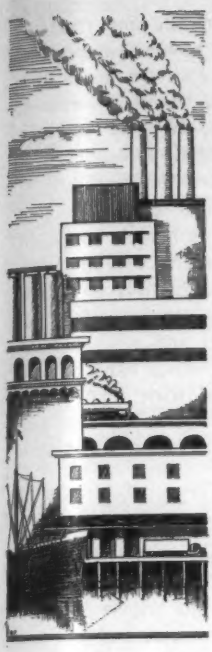
Type of Group Coverage	Total number of groups	Total number of certificates (employes)	Total amount of insurance in force
Group Life (including Group Indebtedness)**	38,500	15,300,000	$25,600,000,000
Group Accident and Health	18,600	6,500,000	$105,600,000 (weekly benefits)
Group Accidental Death and Dismemberment	14,500	3,200,000	$5,250,000,000 (principal sum)
Group Hospital Expense	18,000***	4,900,000***	$21,700,000 (daily benefits)
Group Annuities	2,033	1,200,000	$277,660,000 (annual income at maturity)
Group Medical Expense Reimbursement	Because of the recent inauguration of this type of coverage, no statistics are available.		
Group Life Permanent Insurance	This is group level premium insurance as contrasted with yearly renewable term insurance. Because of the recent inauguration of this type of coverage, no statistics are available.		

* Latest statistics available.

** The approximate Group Indebtedness figures were, as of 12-31-44: 5,660 contracts, 1,620,000 loans $157,500,000 volume.

*** 8,700 Groups also provided Dependents Daily Benefits covering 1,400,000 family units. 17,600 groups covering 4,300,000 certificates provided Surgical Benefits for employees and 2,400 groups; covering 530,000 family units for their dependents.

(*Equitable Life Assurance Society*)



Profit Sharing

A Possible Solution to Labor Problems



The most successful profit-sharing plans are those based on a percentage of profits, not distributed currently in cash, but safely funded for the employes individually in flexible form, often supplementary to a pension plan.

PART 2

WHAT are the fundamentals and working mechanism of a sound profit-sharing plan?

As was pointed out in the first part of this article, the most successful profit-sharing plans are those based on a percentage of profits, not distributed currently in cash, but safely funded for the employes individually in flexible form, often supplementary to a pension plan.

Definitely, a profit-sharing plan is not a substitute for a pension plan. The latter has a long range effect on employes' loyalty and turnover but is not a direct incentive to increased work production to the extent that an effective profit-sharing plan may be in bringing about a true partnership between labor and industry.

Eligibility of employes' as participants in a profit-sharing plan is an element in its success. Outside of requiring a reasonable period of continuity of service (one to three years) in order to qualify as a participant, there should be no discrimination. Productive workers should be eligible as well as management. This is particularly important if the profit to be shared has its distribution deferred through a profit-sharing trust fund, which for tax purposes is designed to be a "qualified" plan.

The profit base of any profit-sharing plan, especially when production employes are participants, is more readily accepted and produces more beneficial results if the profit base is the company's taxable net income. Such a base, being audited and accepted by the United States Government's Bureau of Internal Revenue, is free of the suspicion that the stated profit has been reduced by "hidden reserves" or by any other unallowable methods.

Capital Stock

Some plans provide that before any predetermined percentage is applied to the profits before or after federal taxes, a specified percentage on capital stock or net worth or an amount in dollars per share shall be set aside for the stockholders, covering the normal or average rate of dividends. The balance of profit above this would then be the base to which the agreed upon percentage would be applied to determine the amount of the profit-sharing fund for the year.

Some profit-sharing plans are like Eric Johnston's recently announced plans for his three companies which provide for a profit-sharing fund of 25 percent of the net taxable income before taxes and dividends. Such a plan is free of the effect of varying tax rates, but the stated percentage being applied on a larger dollar base sounds and usually is a smaller percentage than one applying on the profit after federal taxes or provision for normal dividend requirements, or both. Percentages on the latter bases may run from 30 percent upwards if all classes of employes are eligible.

The balance of profits after provision for profit-sharing, federal taxes, and dividends for the stockholders remains in surplus (which is a part of the stockholders' equity) in order to finance expansion of plant, inventory, and receivables in an expanding business without constantly resorting to expensive new stock issues or overheavy outside borrowing.

In Eric Johnston's plan, participating employes are given a further interest in the business. Junior advisory boards of seven members, initially appointed for six months, but subsequently elected by employes, are set up in each plant. They advise on labor

(*Continued on page* 97)

HANGAR FLYING

LOCKHEED

PILOT-BOOSTER

Few people know that at one curious stage in the development of the *Constellation*, the plane's hydraulic booster system worked *too* well.

The plane was designed so that the boosters, instead of the pilot, would do most of the work moving the control surfaces. For every pound of push the pilot puts on the rudder pedals, for instance, the booster now exerts 23 pounds of pressure to move the rudder. Saves the pilot a lot of wrestling. And assures really full control of big, modern four-engine airliners.

Well anyway, early in the game Lockheed perfected the booster system to such a point that you could practically fly the *Constellation* with your little finger. This reaction, of course, was too sensitive for general use... but the point is that the all-important "feel" of the ship has been tailor-made to the exacting wishes of experienced pilots, who swear by it.



Now, to passengers and pilots, the *Constellation* acts like the thoroughbred she is. Her foolproof booster system (the only one with a C. A. A. approved type certificate) makes the 45-ton, four-engine plane handle as lightly as a twin motor job.

Like everything else on this ship, the boosters were developed by imaginative, painstaking engineering... the kind that keeps Lockheed leading the field.

L to L for L

© 1946, Lockheed Aircraft Corp., Burbank, Calif.

International Air Cargo . . .

(*Continued from page* 62)

fronts in Europe, the India-China wing of the Air Transport Command flying across the Himalayan Mountains (the much-feared "Hump") with a steady stream of supplies, 23,500 tons a month for China.

Gasoline, ammunition, guns, jeeps, drugs and other high priority war materials moved out to all war fronts via Air Transport Command. Later, commercial carriers moved into the picture to assist the military flights; their cargo, the same war materials.

Then foodstuffs came into the picture and caught the public eye. Spinach made history!

A Dallas newspaper, commenting on the advent of commercial airfreight, said: "The long-range view . . . taken by financial and commercial men . . . (is) that ultimately it will rank with the coming of the railroads as a major step forward in speedy transportation."

Airfreight has passed out of the "blueprint" stage to become a reality. It is probably the first new commercial venture to develop out of the war. As A. R. Bone, regional vice president, American Airlines, said in an interview on the west coast: "Action was substituted for prediction regarding the potentialities of postwar air transportation."

Commercial airfreight, however, is unlike the wartime version conducted by the Air Transport Command. Military cargoes moved where they were needed and at a risk commensurate with the risks of war itself. The cost? Who cared! It was the success of the campaign, the equipping and safety of our men at the front that counted.

Commercial cargoes, on the other hand, called for a method of shipment that permits one of two things, i.e., either the opportunity to make a clear profit through the use of this method, or an opportunity to reduce the cost of the shipment. Take live lobsters, for instance. It has been determined that the shrinkage and mortality rate in transit makes it impractical to ship live lobsters more than 1,000 mi. The shrinkage, running to 15 percent, and the mortality rate running to 12 percent, are important considerations.

If lobsters are worth 50c. FOB Boston, on a 5,000 lb. shipment, there would be $375 loss in shrinkage, and approximately $314 mortality loss, plus the cost of ground transportation, and ice. By airfreight, on the other hand, lobsters can be handled with relatively no shrinkage and a minimum of mortality, with a consequent saving of about $600.

The business man, operating on a sound economic basis, will have his transportation needs met by airfreight. Not every business man, but the one whose foresight calls for new markets and new merchandising methods.

Since the first of the year, American Airlines System has effected an arrangement with the nation-wide offices of the Railway Express Agency to provide a simplified, streamlined service to the countries served by American Airlines and connecting European air carriers. Under this plan, paper work on international air shipments is reduced to a single shipping document, the "pink sheet," which distinguishes this fast and simplified service.

With Railway Express Agency's 23,000 local offices throughout the country, in addition to American Airlines' offices, shippers are enabled to airfreight their goods no matter where they may be located. They simply call their nearest Railway Express Agency office, specify that they have an international air shipment which they want to go via American Airlines System, and fill out one document, the AA "pink sheet," in addition to customary government papers.

Direct daily air express to England, Eire, the Netherlands, Sweden, Norway and Denmark is available, providing fast, efficient service with connections at London for service to France, Switzerland, Belgium, Poland and Czechoslovakia via BOAC, Air France, Swiss Air,

(*Continued on page* 90)

Regulation . . .

(*Continued from page* 58)

the procedures required by the state or federal rules and regulations? Again, in applying regulation to commercial air transportation, if the federal agencies issue a certificate of public convenience and necessity, an aircraft and airworthiness certificate or an airman's competency certificate or license and signify their approval of airline operations and maintenance manuals, navigation facilities and various operating procedures, and then the state agency in the conscientious exercise of its judgment and discretion, upon the same showing, should reach different conclusions and refuse to issue like certificates or give like approvals or cancel or suspend such certificates or revoke or change such approvals, what will be the status of the air carrier?

We must have nation-wide uniform rules of the road and safety for air transportation. We must not have 48 different agencies with power to control air traffic, prescribing conflicting and hampering restrictions against the uniform operation so necessary to the safety and efficiency of flying. To do so would mark us as wholly oblivious to the needs of aviation and the benefits it can bring to the country.

It is readily conceded that the federal agencies have made some mistakes, but it is suggested that when any person or agency ceases making mistakes, little or nothing is being accomplished. A soundly conceived structure for control and regulation, with room for all aviation, has been erected by the federal government. Why tear it down in an effort to build in each of the 48 states a different kind of house? Air carriers and non-commercial flyers cannot successfully serve two masters, much less a half dozen or more. Should there be non-uniformity, those in aviation will not know whether they should conduct their operations in conformity with state or federal regulations, and if they attempt to comply with the various state regulations, airmen will not know where the regulations of one state end and those of another state begin.

Air Express Goes Everywhere FASTER!



Rates slashed 22%—now more than ever, a money-making "tool" for every business

No matter where you do business, even in the smallest town, the speed of Air Express is at your service — between thousands of U. S. communities and scores of foreign countries.

Yes, when "getting something fast" means better serving a customer or clinching a deal, keeping a factory open and men at work — Air Express more than pays its way. It's a money-maker.

Specify Air Express-Better Business Buy Than Ever

RATES CUT 22% SINCE 1943 (U. S. A.)					
AIR MILES	2 lbs.	5 lbs.	25 lbs.	40 lbs.	Over 40 lbs. Cents per lb.
149	$1.00	$1.00	$1.00	$1.23	3.07¢
349	1.03	1.10	2.30	3.68	9.21¢
549	1.07	1.42	3.84	6.14	15.35¢
1049	1.17	1.98	7.68	12.28	30.70¢
2349	1.43	3.53	17.65	28.24	70.61¢
Over 2350	1.47	3.68	18.43	29.47	73.68¢
INTERNATIONAL RATES ALSO REDUCED					

In the face of rising prices, Air Express rates have been slashed 22% since 1943, saving business millions of dollars. And rates include special pick-up and delivery in all principal U. S. towns and cities — with fast, co-ordinated air-rail service between 23,000 off-airline points. Service direct by air to and from scores of foreign countries in the world's best planes, giving the world's best service — at lowered cost.



AIR EXPRESS

GETS THERE FIRST

Write Today for new Time and Rate Schedule on Air Express. It contains illuminating facts to help you solve many a shipping problem. Air Express Division, Railway Express Agency, 230 Park Avenue, New York 17, N.Y. Or ask for it at any Airline or Railway Express office.

Phone AIR EXPRESS DIVISION, RAILWAY EXPRESS AGENCY
Representing the AIRLINES of the United States

NEXT MONTH in DISTRIBUTION AGE

THE May issue will suggest ways and means of using rail transportation more efficiently and economically through better integration with other distribution activities. Some of the outstanding writers of feature articles are:

●

G. D. CEDERHOLM, manager traffic and warehousing, E. R. Squibb & Sons, who criticizes railroad management as being too "carload-minded" and who suggests that railroad sales representatives must outgrow the old concept that railroad business must move by rail exclusively.

●

H. S. ELKINS, well-known commerce attorney and ICC practitioner, who discusses the repeal of land grant rates and its benefits to shippers.

●

HAROLD E. SMITH, traffic manager, Western Auto Supply Co., who writes on shipper and carrier responsibility in handling shipments and who makes a number of constructive recommendations for the control of loss and damage claims.

●

C. H. DIETRICH, executive vice chairman, Freight Claim Division, Assn. of American Railroads, who explains in detail what the railroads are doing cooperatively and through shippers' organizations, with respect to liability claims and costs in freight handling.

●

PAUL W. BROWN, general traffic manager, Sears, Roebuck and Co., who speculates as to whether a more unified national transportation system would be beneficial to shippers.

●

H. F. GULDE, president, Los Angeles Traffic Managers Conference, who proposes several ways that the western railroads can improve their freight service.

●

H. G. ELWELL, president, Elwell-Philips & Co., Inc., who emphasizes the need of improvement in the movement of less than carload freight. He advocates that the railroads should maintain records which provide for the tracing of these shipments as is done in the case of carload consignments.

Letters TO THE Editor

Rights and Duties

Sir:

Please accept my congratulations on your excellent editorial, "Rights without Duties," in the Feb. issue.

In a few words you have stated clearly and forcibly the need of cooperation between labor and management and their duty to the public.

I should like to see your editorial in every city paper. The long-suffering public might take heart and, incidentally, your advice, and if letters to Washington prove of no avail, then do as you say, "elect a new Congress next fall."—**L. H. Shreve, New York.**

o o o

Sir:

The writer wishes to take the opportunity to commend you on your editorial "Rights Without Duties." That editorial ought to be mailed to every congressman and every newspaper in the country!—**Walter E. Meinzer, Sales Promotion Mgr., A. Sulka & Co., New York.**

o o o

Stops in Transit

Sir:

. . . In your Feb. issue, Henry G. Elwell's article, "Partial Unloading in Transit," indicates that a carload shipment can be stopped twice for partial unloading prior to delivery to final destination.

On transcontinental traffic, only one stop in transit is permitted. We wonder if the figures set up by Mr. Elwell cover just some particular territory, not transcontinental. We are particularly interested in transcontinental west bound traffic.—**T. G. Cornish, Western Traffic Mgr., Hercules Powder Co., Inc., San Francisco.**

[**Mr. Elwell's reply:** . . . It must be borne in mind that the article made no attempt to cover any definite rate territory or commodity.

There are many instances where only one stop-off can be made under transcontinental tariffs. However, there are other cases where more than one stop-off can be obtained in transcontinental territory.

Not only in transcontinental territory are there applicable tariffs which permit more than one stop-off on certain commodities, but the same situation exists in relation to trunk line, New England, and southern territories.

In the final analysis, the individual shipper must be guided by the nature of the commodity which he ships by rail, and the terms of the applicable tariffs. Where he finds that only one stop-off can be made, or where the privilege is not permitted under a given tariff, then he has an opportunity to file a proposal with the carriers. As we see it, it is the duty of the traffic department to "dig out" the opportunities for cost reductions. This is one of the reasons we keep stressing the need for traffic management in industry and in the individual manufacturing concern.]

o o o

Training Films

Sir:

Will you please advise if Matthew W. Potts, your materials handling consultant, knows of any 16-millimeter motion picture films which are available for training purposes with regard to materials handling, warehouse layouts or similar subjects. We would like to use these films in a training program for our employes.—**R. E. Covey, Traffic Mgr., Sylvania Industrial Corp., Fredericksburg, Va.**

[**Mr. Potts' reply:** One outstanding film is produced by the navy, and is called "The Fork Truck." It can be obtained through the bureau of supplies and accounts, materials handling and container section, U. S. Navy, Washington, D. C. Other films can be obtained through the Electric Industrial Truck Assn. and the Edison Storage Battery Co.]

People in Distribution



TRANSPORTATION

The Women's Traffic Club of Milwaukee held monthly dinner meeting, when the following officers were elected: president, **Agnes O'Gara**, Archer - Daniels - Midland Co.; vice president, **Dorothy Blask**, C. M. St. P. & P. Ry.; secretary, **Gwen Jaeschke**, Rolfe Brokerage Co.; treasurer, **Helen Polland**, C. B. & Q. Ry., and editor, Badger Traffic-ette, **Loretta Wettengel**, Express Freight Lines.

The nominating committee, Junior Traffic Club of Chicago, headed by **John Middleton**, chairman, has submitted the following nominees as officers and directors, for one and two years' service, respectively: **Harry J. Phillips**, Chicago North Shore & Milwaukee Railroad, president; **Harry W. Anderson**, Youngstown Sheet & Tube Co., vice president; **Albert E. Hooper, Jr.**, Currier-Lee Warehouses, Inc., secretary; and **August C. Gomer**, Atlas-Schoenhofen-Edelweiss Brewing Co., treasurer; **Otto A. Grabo**, Great Lakes Motor Dispatch; **Ralph C. Kintz**, Peabody Coal Co.; **Leonard F. McBrien**, New York Central System; **Theodore J. Green**, Midwest Carloading & Distributing Co., and **George A. Rodocker**, Foreman Sales Co., directors.

The newly elected officers and directors, Reading Traffic Club, are: president: **Russell C. Folk**, T.M., Rosedale Knitting Mills; 1st vice president, **C. W. Deppen**, T.M., Bingaman Motor Express Co.; 2nd vice president, **J. William Trump**, DSK, Reading Co.; secretary: **O. Daniel Dreyer**, C.F.A., Western Maryland Ry. Directors: **L. B. Abrams**, T.M., American Chain & Cable Co.; **H. H. Adams**, L.F.A., Reading Co.; **Leo Brendlinger**, secretary-treasurer, Yocum Bros.

John J. Fitzpatrick has been elected chairman, Traffic Executive Assn.—Eastern Territory and Trunk Line Assn., to succeed **Edwin H. Burgess**, who will become vice president and general counsel, Baltimore & Ohio Railroad Co., succeeding **John J. Cornwell**, formerly general counsel and director. Mr. Cornwell will remain with the road as consultant.

Charles K. Faye has been appointed manager of perishable freight service, Western Pacific Railroad, and its two subsidiaries, Sacramento Northern Railway, and Tidewater Southern Railway.

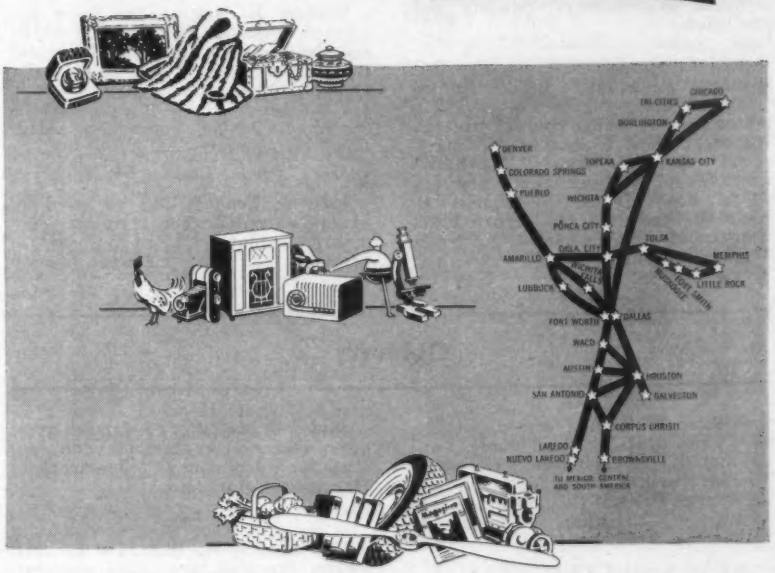
Walter H. Johnson, Jr., has been appointed eastern regional cargo traffic manager, American Airlines System, headquarters, New York City, replacing **Robert K. Warner**, who has been appointed general air freight agent.

J. D. Lewis, formerly superintendent, military operations, has been appointed manager of operations at New York for the domestic division of the company.



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Henry N. Vreeland, former general purchasing agent, Wright Aeronautical Corp., has been named assistant director of purchases, The White Motor Co.

Capt. R. A. Clarke, assistant general manager, Canadian National Steamships, has been promoted to general manager, succeeding **R. B. Teakle**, retired.

Ralph B. George has been placed in charge of Trailmobile Fleet Sales, Cincinnati.

George W. Mason, president, Nash-Kelvinator Corp., Detroit, elected president, Automobile Manufacturers Assn., succeeding **Alvan Macauley**, chairman of the board, Packard Motor Car Co. **George Christopher**, president, Packard, succeeds Mr. Mason, who previously served the industry as treasurer of the association. Other officers are: **Paul G. Hoffman**, president, Studebaker Corp., vice president; **Robert F. Black**, president, White Motor Co., vice president; **Albert Bradley**, executive vice president, General Motors Corp., secretary, and **George Romney**, general manager.

Gen. William J. Williamson, vice president, Standard Freight Lines, Chicago, will be executive vice president, Motorcade, Inc., a national organization concerned with union truck terminal site surveys, designs and operation.

America's automotive industry this spring will celebrate a Golden Jubilee that will bring together pioneers in motordom, as announced by **George Mason**, president, Automobile Mfrs. Assn., and president, Nash-Kelvinator Corp., Detroit. Some pioneers to be honored include: **Charles B. King, J. Frank Duryea, Henry Ford, Ransom E. Olds, Charles W. Nash, William Durant.**

WAREHOUSING

Lt. Col. A. J. Bardol has returned to St. Louis Terminal Warehouse Co., St. Louis, after being released by the army. He has been with the company since it was organized in 1925.

Milo W. Bekins, president Bekins Van and Storage Co., Los Angeles, has been elected to the board of directors, Douglas Aircraft Co., Santa Monica, Cal.

Elmer Erickson has been elected president, Midland Warehouses, Inc., Chicago and of the Chicago Junction Terminal Building Co., to succeed the late **Thornhill Broome.** Mr. Erickson has served as vice president and general manager of both firms since 1920.

MARKETING

York Corp. has formed international division, headquarters, 50 Broadway, New York. **James C. Tweedell**, export manager and acting general sales manager during war is manager, new division; **S. L. Cordis**, assistant manager; **C. E. Renninger**, sales manager.

William F. Newton has been appointed manager of market research and development, Columbia Chemical Div., Pittsburgh Plate Glass Co. **Frank G. Moore**, traffic manager, also of Southern Alkali Corp., elected chairman, traffic committee, Mfg. Chemists Assn. of U. S.

John J. Conners has resigned as general sales manager, Irvington Varnish & Insulator Co., to become vice president and sales manager, Bishop Gutta Percha Co., New York, and the Peters Mfg. Co., Wollaston, Mass.

T. C. Fogarty, general manager, Continental Can Co.'s Eastern Div., was elected vice president, charge of sales at meeting, board of directors. **Paul E. Pearson**, vice president, charge of equipment development and research, was named vice president, charge of operations; **Allan M. Cameron** moved up from general manager of equipment development and manufacture to Mr. Pearson's position. **J. E. Niederhauser** has been appointed manager of industrial relations, following resignation of **B. M. Brock.**

O'Roland Read has been appointed director of sales, Speedways Conveyors, Inc., Buffalo, manufacturer, Speedways gravity case conveyors.

M. Keith Webster has been appointed to sales force, William H. Ziegler Co., Inc., Minneapolis, distributing agency for Automatic Transportation Co., Chicago, manufacturer electric propelled materials handling equipment.

R. J. Nymberg has been named sales manager, hoist and body division, Gar Wood Industries, Inc., Detroit. **Henry Husbands** will assist **Amos E. Heath**, district manager, general line, Washington. **Ross Miller**, district manager, general line, is acting temporarily as manager, Philadelphia branch (hoist and body division), succeeding A. E. Hilderley, retired. **Edward F. Kreutzfeld** has been named service manager to succeed Mr. Miller. **William F. Keeton**, is in charge, newly-created advertising department. **Charles J. Hoffman** is in charge, newly-formed export department.

George W. Bantzhaff, appointed sales representative, Barrows Lock Works, North Chicago, for states of Mich., Ohio and Ind. and some larger cities bordering this area.

H. F. Spoehrer, vice-president, Sporlan Valve Co., St. Louis, was elected president, Refrigeration Equipment Mfrs. Assn. at its spring conference. He succeeds **F. J. Hood**, secretary-treasurer, Ansul Chemical Co., Marinette, Wis. Other new officers are: **Edward M. Flannery**, Bush Mfg. Co., Hartford, vice president; **Guy J. Henry**, Henry Valve Co., Chicago, treasurer; and **C. H. Benson**, Imperial Brass Mfg. Co., Chicago, treasurer.

Miami Valley Paper Shippers' Assn., at their annual meeting installed the following trustees: **G. R. Armstrong**, Specialty Papers Co.; **G. A. Popp**, Crystal Tissue Co.; **R. V. Boswell**, The Maxwell Paper Co.; **J. W. Deininger**, Gardner-Richardson Co.; **A. F. Dorenbusch**, Raymond Bag Co.; **A. J. Tillmann**, Beckett Paper Co. Officers elected were: **Mr. Armstrong**, president; **Mr. Popp**, vice president; **Mr. Boswell**, treasurer.

Obituary

William E. Payne, secretary-manager, Vancouver Board of Trade, Vancouver, B. C., honorary secretary, Pacific Northwest Trade Assn., and secretary, British Columbia regional committee, Canadian Chamber of Commerce. (Haskell)

E. G. Harris, 79, founder, Harris Motor Transportation Co., Indianapolis. (Grissam)

William R. Gilman, 58, treasurer, Root & Boyd, Inc., Waterbury, Conn., nationally known casualty insurance underwriter.

John Y. Sloan, 73, vice president of sales, Pullman Standard Car Mfg. Co., Chicago.

William S. Leaycraft, 56, former vice president and treasurer Curtiss Aircraft Corp., and former Vultee Aircraft Inc.

James D. McGann, 65, former manager industrial engineering and construction department, International Harvester Co., Chicago.

Col. Earl J. W. Ragsdale, 61, well known inventor, and chief engineer, railway division, Edward G. Budd Mfg. Co., Philadelphia.

Robert Burton Young, president Savannah Bonded Warehouse and Transfer Co., Savannah, Ga., for many years an outstanding figure in the warehousing industry in the southeast and an active member American Warehousemen's Assn.

Thornhill Broome, president, Midland Warehouses, Inc., Chicago and of the Chicago Junction Terminal Building since 1915.



Getting Down to Cases In Distribution

FINANCE & INSURANCE • HANDLING & TRANSPORTATION
PACKING & PACKAGING • WAREHOUSING & MARKETING

By LEO T. PARKER
Legal Consultant

TRANSPORTATION

THERE is no common law duty devolving upon a common carrier to act as the collecting agent of the shipper. Therefore, such obligation must arise by contract.

In Okin v. Railway Express Agency, 44 Atl. (2d) 896, N. J., it was shown that a common carrier accepted a COD shipment of a diamond and agreed to collect on delivery. However, it made delivery without collecting the amount due. The higher court held the carrier liable although it was alleged that the consignor failed to deliver a diamond of the value agreed upon between the consignor and consignee.

Ferments

Recently, a higher court held that a common carrier is not liable for damage to sealed merchandise caused by fermentation or high temperature.

In Joseph Miller Co. v. Gateway City Transfer Co., Inc., 20 N. W. (2d) 651, Wis., it was shown that Royal Wine and Liquor Co. delivered to a motor transport company 200 cases of brandy to be transported from Chicago to La Crosse, Wis. A bill of lading was issued for the shipment in usual form for shipment of goods in interstate commerce, in which carrier acknowledged that the shipment was received in good order. When the brandy was delivered, the wax on the bottles had melted and the corks had been forced from the bottles, damaging the shipment. The shipper sued the carrier for damages.

During the trial, testimony proved that the goods reached La Crosse on the morning of June 15, and remained on the parking lot of the transport company until the afternoon of June 16. Although the lower court held the carrier liable, the higher court reversed the verdict, saying that where a shipment is delivered to a common carrier under bill of lading which discloses that the shipment consists of cases of brandy in glass bottles in wooden boxes not open to inspection, the carrier is not liable as an insurer for damage caused by blowing of bottle corks because of fermentation or because of expansion of the contents due to high temperature.

Uniformity

According to a late higher court decision, Congress may in the future enact a valid national law regulating the size, weight limits, etc., of motor trucks. The Supreme Court of the United States broadly indicated the practicability of this type regulation in Vol. 325, U. S. Official Reports 761.

In this case, the Supreme Court held invalid a state law which limits freight trains to 70 freight cars. The court said that no state many regulate the length of a train, and further, that any regulation of this nature must originate from Congress for national uniformity.

Anti-Trust Law

Considerable discussion has arisen from time to time over the legal question: Can a union violate the anti-trust laws?

In Hunts v. Hunts Motor Freight, Vol. 325 U. S. Official Reports 821, the testimony showed that a union was antagonistic toward a company. The union refused to allow truck drivers of the company to join the union, and members of the union refused to work for the company. The result was the company had to quit business. The higher court held that the union had not violated the Sherman Anti-Trust Act.

On the other hand, in Allen Bradley Co. v. Local, Vol. 325 U. S. official Reports 797, the United States Supreme Court held that it is a violation of the Sherman Anti-Trust Act for labor unions and members to combine with manufacturers of merchandise in order to increase wages of union members by monopolizing the market and by increasing the selling price of the merchandise.

WAREHOUSING

THREE important points of law were decided by a recent higher court in a suit against a warehouseman for damage to stored goods. The court held that a warehouseman cannot avoid liability for damage to stored goods resulting from negligence of a person to whom a portion of the warehouse premises is leased. In addition, the court held that the owner of stored goods is not bound by a limitation clause in a warehouse receipt mailed after the goods are placed in storage. The court held also that a warehouseman is not liable for damage to stored rugs, furniture, etc. by moths if he uses reasonable precaution to protect the stored goods against moth damage.

In Dugan v. Central Storage and Transfer Co., 23 So. (2d) 634, La., the owner of household goods sued a warehouseman to recover for damages to the goods caused by leakage from the floor above of anti-freeze solution drained from the radiators of automobiles. The evidence further proved that the warehouseman had rented this upper floor to an automobile dealer.

The warehouseman contended that he was not liable because the automobile dealer was an independent contractor over whom he had no control. The warehouseman introduced a warehouse receipt which contained a clause limiting liability. However, the limitation clause in the warehouse receipt was not called to the attention of the owner of the goods, since the receipt was mailed after the goods were stored. Therefore, the higher court held the warehouseman liable for damage to the stored goods, and said:

"There was no written contract of storage involved in this case. True, defendant (warehouseman) has introduced a warehouse receipt, but it is clear that this receipt was mailed out to plaintiffs (owner of goods) after the goods were stored and the first month's storage paid."

"We think damage from such a source (drainage of automobiles) is only what might have been reasonably expected, and must therefore carry with it the inescapable conclusion of neglect on the part of the sublessee (automobile dealer), for which defendant (warehouseman) must assume liability as regards damages to goods stored for his depositors."

The higher court refused to hold the warehouseman liable for moth and rat damage to the goods, saying:

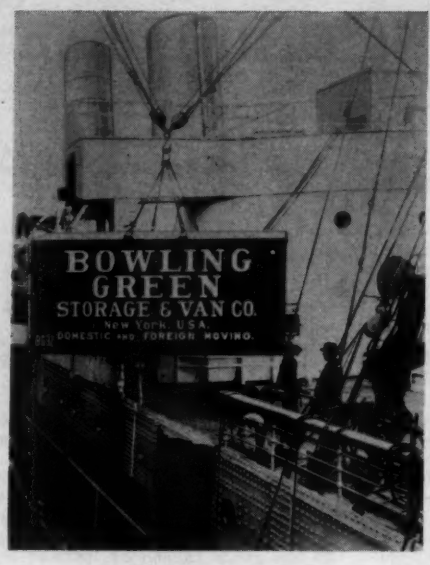
"The record is convincing on the point that defendant (warehouseman) took every reasonable precaution against moth damage."

Coming Events

May 25-26—AMERICAN TRUCKING ASSN., INC. (Freight Claim Section), 1424 16th St., N. Y., Washington 6, D. C. Meeting, Cleveland.

May 27-29—AMERICAN TRUCKING ASSN., INC. (Safety Operations Section), 1424 16th St., N. W., Washington 6, D. C. Annual spring meeting, Cleveland.

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Group Insurance . . .

(*Continued from page* 80)

and practical industrial relations program can be built. Its objectives should be made clear to the employes and they should be made to understand that it is a cooperative management-employe program; that the only way group rates can be procured for them is through management; and that the only way an uninsurable employe can still be insured is through management. The employer should sell the plan just as he sells his product.

Some executives say that group insurance is a form of paternalism. If a plan that will promote greater efficiency, greater peace of mind, greater comfort of the employe and his family, and that will provide continuity of dividends to the stockholder is paternalism, then, call it what you will, I am for it.

Merchant Marine

(*Continued from page* 72)

Had we had a more adequate fleet of merchant ships in being and in practical operation in 1941, the cost undoubtedly would have been halved. Many less ships would have had to be built at inflated war costs, the war would have been shortened, and the aggregate cost tremendously lessened.

Is it not time that we approached the problem of our national shipping policy from an actuarial insurance standpoint? We should insure our national safety. The greatest navy and air force in the world is useless to us without the necessary supply of cargo ships and potential personnel carriers to support military and naval activities and to keep open and service the national life-lines of supply.

Viewed from this aspect, the problem can be brought into proper perspective. It is no longer a matter of picking a nice percentage out of the air and saying that we should have a merchant marine adequate to carry 10 percent, or 25 percent, or 50 percent of our overseas commerce. The problem is one of national defense.

The questions, thus, become:

1. How much merchant marine quantitatively do we require for national security?

2. How much of that total can be engaged profitably in the coastwise and territorial trades? (Both protected by law against foreign competition.)

3. How can we best and most cheaply insure that the remainder (1 minus 2) will be employed profitably in our overseas commerce?

4. Will the aggregate cost of that insurance even begin to approximate $600,000,000 a year?

The answer to question one is for logistic determination by the President, as Commander-in-Chief, on advice of the Joint Chiefs of Staff, and subject to appropriate consideration by Congress thereafter. Obviously, the aggregate will exceed materially the shipping we owned and operated in our domestic and overseas trades in 1941.

Question two cannot be answered

with categorical accuracy at this time. It is possible perhaps that we can profitably employ less shipping in the decades to come in our domestic trades than we did prior to World War II. It is equally possible that with an expanding and readjusting population and economy that we may employ more. The answer may largely depend on the interpretations of the domestic transportation policy by the Interstate Commerce Commission in the year immediately ahead.

For purposes of analyzing our broader problem, however, let us assume that we will not find a material increase of shipping employed in our domestic trades versus prewar. In that case the full quantitative measure of increased shipping found requisite to our national safety must be employed in our overseas trades.

Out of approximately 10,000,000 deadweight tons of American-registered ocean going shipping, well over half was engaged in our domestic trades before the impact of World War II. If logistics indicate that we require an increase of 50 percent in our merchant marine, it means more than doubling the portion engaged in overseas trades. If logistics indicate that we require a doubling of our active merchant marine, it means more than tripling the portion in overseas commerce.

We will get neither without a revised policy of administering the 1936 Act. A new approach is clearly needed.

Once questions one and two have been satisfactorily answered, it becomes possible to apply the resultant rule to the individual overseas trades of strategic national importance. The operating-differential subsidy provisions of the 1936 Act should be used to support the national policy thus arrived at. Ships purchased under the terms of the Disposal Bill should be entitled to the same operating subsidy support under the same policy conditions laid down in the earlier Act.

Obviously, in fairness to the "chosen instrument" carriers, they should be allowed prior option of acquiring and operating the additional tonnage that would be required by such a national shipping policy. To the extent that they are unable or unwilling to invest in the additional tonnage, other American operators should be invited to compete in the respective trades under the same advantages and restrictions.

Plans for a reserve laid-up fleet should not distract us from the main point. A laid-up reserve will the more quickly enable us to meet a secondary need; without trained personnel and operating agencies it cannot represent a "first-line" defense, for it obviously cannot be put into active service that quickly.

Not alone will the increased aggregate of "operating-differential" subsidies required by such a national policy be far less than the service cost of our previous neglect of our most obvious defense needs; to an extent, it will be self-liquidating, since it will bring enhanced ship sales and the liquidating revenue that will reduce materially the amortization cost of previous neglect.



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International Air Cargo . . .

(*Continued from page* 82)

Belgian Airlines, Swedish Airlines and Royal Dutch Airlines.

While Air Express has been available to Mexico for several years, within the last six months American has added many new services, including the transatlantic hop to London, and more recently, to Stockholm and Amsterdam. In the near future, international air express will go to Norway and Berlin, and other countries, thus opening a new method of overseas shipping to far-flung corners of the earth, new commerce between the United States and other countries.

Factories in the United States, in several instances, have begun to move from congested areas, where manufacturing is handicapped, to less congested areas. By airfreight, they still can have their products on the market in six hours, on either coast. By use of the telephone and airfreight, an office in Texas is convenient to New York and San Francisco.

To assist business men in the use of airfreight, American Airlines maintains a staff of research men and engineers to study the transportation problems and requirements of shippers. Packaging, for instance, is being developed with airfreight so that now, perishables are shipped in containers that are lighter in weight, better ventilated when required, attractively designed for consumer acceptance, imprinted with the producer's mark for identification to the customer, and many other advantages.

The recent arrangement with nationwide offices of Railway Express Agency provides American Airlines system with a simplified, streamlined air shipping service that reduces paperwork on international air shipments to a single shipping document, another milestone in this lusty new industry.

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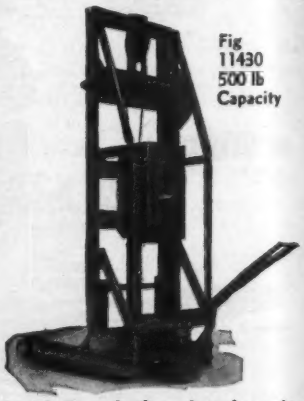


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396 86th Street, NORTH BERGEN, N. J. Since 1904

Corrosion Control . . .

(*Continued from page* 78)

tions of parts when the whole is not to be coated. Sufficient preservative should be "flowed on" to cover completely the desired areas and to permit some excess to drain off by gravity.

Let us assume we have a hypothetical part, cleaned, dried with proper preservative selected and applied. It is necessary to select the proper wrapper or inner package. There are many methods of packaging in corrosion control of metal parts. Generally, there are four general procedures, with variations, combinations and alternate approaches to achieving the same end. We will consider the four basic methods, 1, 1-a, 1-b and 2.

Method 1 involves the part cleaned and preserved and then wrapped in greaseproof, noncorrosive wrapping material (paper, bag or carton). The wrapping is unsealed and serves to prevent flow-off of the preservative, prevents contact with dunnage or blocking and provides some protection against impact and abrasion. The lack of sealing means the preservative must be adequate to resist the action of corrosive atmospheres, moisture vapor and possibly liquid water.

Method 1-a adds sealed wrapping in waterproof packaging material to the Method 1 pack. This is by far, the most popular method in use today for the preservation of small parts, tools, bearings, gears, etc. The combined wrap or envelope and seal must present a continuous waterproof surface, since even a small break or pin hole will greatly reduce the life of the package. The waterproofing in this method may be accomplished to the wrap of the part itself, or it may be done by waterproofing the outer wrap, bag or carton. For example, the naked part after being preserved is wrapped in Grade A greaseproof paper. Then it is wrapped in Grade C, a moldable, greaseproof paper that has been impregnated with wax. Here it may, if practical, be sealed additionally by dipping in wax. This, when overwrapped is a Method 1-a pack. If, instead of dip-sealing the wrapped part, it was placed in a waterproofed bag and a water-vapor closure secured, we have another variation of Method 1-a. If after wrapping the part in Grade A paper, it is placed in a fibre-board carton and the entire carton then wrapped in Grade C greaseproof wrapping and submerged in a wax dip, we again have a Method 1-a package. The important distinction of Method 1-a is a corrosion-preventive compound coating plus a water-proof unit package.

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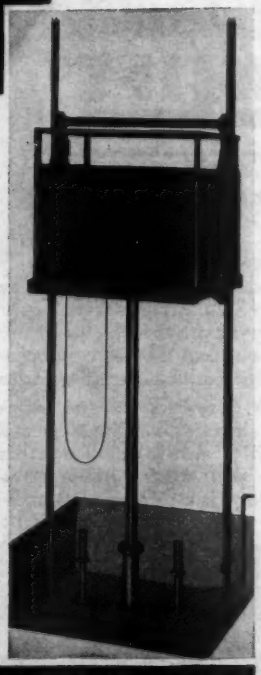


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Method 1-b, developed during the war, is fast growing in popularity for parts which lend themselves to such treatment. Here corrosion-preventive compounds and waterproof paper wrap are dispensed with. Instead, a plastic strippable compound coating is applied. After the film has "set" the part is protected until the protective coating is peeled from the part. Naturally, care is required after coating, so that the stripping does not become broken in its carton or box, and special cushioning has to be provided so that abrasion will not destroy the protection prematurely.

Method 2, accomplished the job of preservation against corrosion by means of dehydration. This method, as mentioned earlier, is used for business machines, engines, motors, delicate instruments, electrical mechanisms and precision parts. If the moisture-vaporproof barrier encompasses the contents mounted on a base in a wooden box, or if it is cushioned in a carton which in turn is placed in a barrier, or if the contents are sealed in a metal container, the principle is similar. Because the complexity of the contents does not permit submerging in a compound, corrosion must be fought by eliminating all humidity and preventing the entrance of more.

Barriers are available for the smallest watch movement as well as for complete vehicles. Mobile photographic laboratories, generators, radar stations, by the thousands, were prepared for shipment and safeguarded against corrosion during the war by the employing of Method 2 on a giant scale. Just before sealing the barrier, as much air as possible was pumped out. In the meantime, the proper quantity of dehydrating agent, such as silica gel, in cloth bags, had been distributed inside the vehicle to take up any humidity which remained or which might later seep in. Humidity indicators were placed inside the barrier but at a window in the crate which permits inspection of the humidity content at all times. If the indicator showed an unsafe amount of humidity, it meant the barrier had failed.

Outlook for Merchant Shipping

(*Continued from page* 49)

our country abroad and from abroad to this nation by simplifying and speeding up the issuance of passports and other necessary documents of identification. International business travel should be made as easy and convenient as domestic travel.

A number of our foremost steamship lines, after exhaustive investigation and examination of coordinating their sea services with those of air, have determined that it would be in the public's interest and benefit to have combined sea-air services. The applications of the steamship companies to provide such combined service have been consistently turned down, without adequate reason or justification, thereby imposing restrictions upon a huge potential of Americans to travel in the manner they desire. Such a short-sighted policy can drive our traveling public directly into the arms of our competitors who will offer such combined services.

The problems listed may sound portentous. They are made so by the very greatness of a nation which, today, holds undisputed leadership among all nations. The problems are not so complex however that an intelligent public, who possessed the ability to outproduce and outfight the greatest military combination ever witnessed, cannot solve them.

Fully aware of the enormity and complexity of these problems, American shipowners nonetheless are planning to offer American business and industry the best ships and finest shipping services ever to be made available. Shipping organizations are being expanded to help develop overseas commerce, to open new territories to the American manufacturer and exporter, and to develop reciprocal trade areas.

The United States now possess many speedy and efficient merchant ships. American shipowners, looking ahead to more services, quicker schedules and a greater cooperation with American business and industry in stimulating worldwide trade, are planning even better and more efficient ships.

The nation faces its greatest opportunity in regard to shipping. Twice it has allowed its merchant marine to dwindle to that of a sixth-rate power. It is now back on all the seas again in speed, efficiency and force greater than during its most glorious days in the early history of a struggling young nation.

This time the United States has an unparalleled opportunity to keep the American flag on all the seas, to use it in developing distribution of goods and people that will promote prosperity for years to come.



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Fig. 16-24
Western Pattern Truck with heavy axle, rugged hardwood frame and steam boat handles. Two canter straps.



Fig. 138 Dolly
A heavy hardwood frame dolly for boxes, crates, etc. Double ball race swivel casters with metal or rubber tired wheels. Nutting makes all types of wood or steel dollies with capacities up to 4000 lbs.



Fig. 419 Jack
Fig. 421 Live Skid
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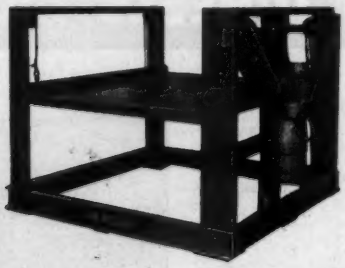
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New Truck Bodies

(*Continued from page 52*)

three seconds to lower or raise a container into or out of the truck by means of a power elevator.

Filled containers are all placed in the back end of the truck and when delivery is made the loads are lowered as shown in Fig. 3 or they can be taken directly off to a platform. Empty containers are re-loaded in the front end of the truck by means of a hand-operated elevating mechanism mounted on a door that swings out from the side of the truck. This makes it possible to load the empties into the truck in the proper sequence so that loads can be delivered as pre-arranged before being placed into the body of the truck.

This type of truck will save time at the point of unloading and should be of material assistance to wholesale grocery warehouses, department stores and shippers of similar products. The cost of the body has not yet been determined, but it is felt that because of the construction features, it can be built at only slightly higher cost than the usual panel body job.

This same type of truck could be used for other types of containers, and there is no doubt that the elevating end-gate for handling unit loads is going to be more extensively used in the future.—Matthew W. Potts, Materials Handling Consultant.

Adoption v. Adaptation

(*Continued from page 70*)

able to avoid distribution difficulties than to overcome them.

In these days of reawakening export trade, management should remember that the industrial designer can:

1. Protect his product through the use of the most modern technological packing methods and materials.
2. Insure consumer acceptance by creating an attractive container.
3. Build sales by effecting container economies.
4. Avoid, rather than overcome, distribution difficulties.

Importance of a Charter Party

(*Continued from page* 42)

"Certainly I will," the traffic manager said.

"Then start unloading the cargo," the captain replied. "Bear in mind, though," he added, "I have not officially given you permission to use the winches."

Both the traffic manager and the captain knew that the suggested letter could not modify the terms of the charter party. The informal arrangement being "off the record" was mutually understood.

The foregoing outlines an incident that actually happened during a strike in this country. It stresses the need of properly preparing a charter party. When one is to be prepared, each of the contracting parties ought to be represented by a person skilled in the drafting of this rigid type of indenture, and who will honestly protect the interests of their respective principals. Every intent and understanding should be clearly stated and incorporated in the text. Unless this is done serious misunderstandings may arise, lawsuits may result, and money may be lost through waste of time with consequent expensive demurrage charges and similar unnecessary costs.

Let us consider the significance and purpose of a charter party as applied to freight. When a shipper or a consignee rents or hires a ship, or other vessel, or part of all of its cargo space, the transaction is referred to as a charter. Also, the contract itself is a charter, although is is more commonly known as a "charter party." It is to be noted that a charter party is not a person, or some sort of week-end vacation. It is an agreement in writing, setting forth specified requirements and conditions entered into between an owner of a ship and a shipper or receiver of freight. The term charter, an instrument of conveyance, is from the Latin *charta*.

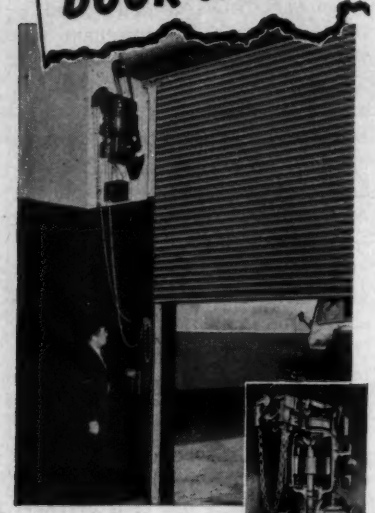
Years ago when a charter, for the leasing of a vessel or its cargo space, was drawn up and signed by the contractors the document was then cut or torn into two parts thereby dividing it. Divided, means *partie* in French. Thus the primary *partie* as time passed became "party," hence, the present designation "charter party" based on *charta* and *partie*, a divided charter.

Today, instead of only an original contract, to be torn in two, several copies are made. Methods change, but the basic principles remain, namely, proof is provided to show that one party has leased a vessel or cargo space to some other party, with the words of agreement embodied in the charter party.

In appearance one charter party may seem to be the same as another, but the contents can vary in



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many ways, just as in the case of real estate rental leases. While there are various sorts of charters, those made on the basis of a stated time or trip are more generally in use. Because of special needs, bulk materials such as copper ore, grain, lumber, coal, etc., frequently are moved under charter.

Basically a charter party should rest on the ideas contained in the Latin phrase *cui bono?*—"for whose advantage? to what end? of what use?" However, we are not attempting herein to sketch the procedure of drafting a charter party. Individual and particular circumstances in given situations require specific consideration, and the details must be dealt with accordingly.

The purpose of this article is to direct attention to the meaning of the term "charter party," and to emphasize that it is hazardous and costly for the uninitiated to draft such a covenant. A charter party, like a will, should be drawn by a specialist.

Marine Insurance

(*Continued from page* 68)

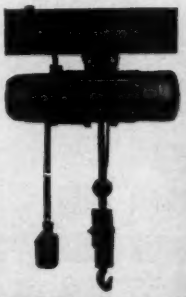
20 categories regarding which any shipper can easily obtain information from his broker or agent in order to determine if his merchandise is rated in the correct division. The important thing is for a shipper to ascertain whether his particular contract covers his goods adequately and guarantees maximum protection at all times during transportation.

Regardless of the fact that a contract is issued once only and continues in force until cancelled, maybe for years, the shipper should carefully review his policy at least once a year, with his broker or agent right at his elbow.

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Profit Sharing

(*Continued from page* 81)

relations, have access to the company's books, and may discuss any phase of the company's business. By unanimous vote they may make recommendations to the Board of Directors or plant management, but management reserves the right to veto. This employes' Board meets once a month outside working hours at a fee of $2.00 per session and each member has a larger than normal share in the profit distribution. Participants in Johnston's profit-sharing plans receive their share of the profits based upon certain points assigned to each:

One point for each $100 of annual compensation; 1 point for each year of service; 5 points if on the junior board; 5 points if in a supervisory position; 25 points if a department manager.

The profit-sharing fund is distributed in proportion to the total point rating of each participant.

Another similar basis of distributing a profit-sharing fund among participants is by individual point ratings for management and other executive, administrative and professional employes "exempt" under the Fair Labor Standards Act (except salesmen on commission plans) and by assigning a total number of points to determine the dollar amount of the portion of the fund to be distributed to "non-exempt" office, warehouse, and factory employes. The fund is then distributed among the participants in these groups as an overall percentage on their total collective and individual earnings, including overtime. This obviates a large lump sum "overtime adjustment" at the time of any profit-sharing distribution.

While some companies distribute profit-sharing funds in cash after the audited results of a year are known, most surveys have shown that leads to unfavorable results. Employes view this as a part of regular annual cash income and plan to spend it as such. They often contract obligations in advance, relying on the profit-sharing amount to be equal to or greater than the

Significant

The Secretary of Commerce announced on March 9 last that the Commerce Department would study the possibilities in profit-sharing, bonus, and other "incentive" systems for increasing production, distribution, and consumption of goods.

Charles E. Brokaw, former Denver businessman, was appointed to head a new Incentive Division in the Office of Domestic Commerce, which will make the study. The Division will include sections to evaluate separately incentive programs for laborers, salaried employes, salesmen, and executives.



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previous year and if it is not, disappointment and financial trouble follow and the plan fails of its desired result.

On the other hand, the distribution may be in such form that, while its conservation for the future is made attractive, it is still the individual property of the employe and can be cashed without too much delay on occasions such as death, retirement, resignation, or in part for emergencies—for expenses of illness, death in family, purchase of equity in a home, mortgage payments, new car, etc.

In order to accomplish the best results the proceeds of profit-sharing may be distributed to participants partly in cash (say 25 percent) and the balance distributed in the form of employes' certificates, held in safekeeping in government securities issued in the employe's name, or paid into a profit-sharing trust if properly "qualified." If the last named method is used, not over 30 percent of the total contributions to the profit-sharing fund may go to employe-stockholders, nor may the amount of the profit-sharing fund (deductible for tax purposes) for any one year exceed 15 percent of the aggregate compensation of the participants for that year.

The issuance of employes' certificates offers attractive possibilities and flexibility for the participating employes. They are in effect notes of the corporation redeemable by the corporation on 60-day notice, but not transferable. The corporation may call them at face value plus accrued interest on death, or other termination of employment. They should bear a current interest rate high enough above savings bank and government securities to be attractive for the employe to hold. The corporation should place in escrow an amount of government securities equal to the face value of all outstanding employes' certificates to provide for any possible emergency redemption. A further attractive feature would be an extra interest payment of one-half of one percent for each one percent by which the corporation's net income exceeded say 5 percent on its net worth.

Such employes' certificates could

be retained as an individual retirement fund even in the face of emergency financial needs. The corporation could arrange with its banking connections to lend up to the legal percentage of the face value at a relatively low interest rate, the corporation guaranteeing to redeem the certificate if the employes' payments on the loan were in default.

On an employe's death his share of any accumulated profit-sharing trust, securities, or employes' certificates would be payable to his estate or designated beneficiary.

On retirement, the amount due him could be paid out over any stipulated period to him or his beneficiaries including interest on undistributed balance. In the case of a "qualified" profit-sharing trust this deferred distribution has certain possible tax advantages to the employe which should be carefully explained to all employes when they first become participants.

It is quite possible that incentive features will be enacted into new federal tax laws to give special or additional tax advantages to employers adopting approved types of employe profit-sharing plans. The Senate Finance Committee's report showed that employers were three to one in favor of such exemptions and the majority said that they would adopt profit-sharing plans if such exemptions were available. It was felt that such exemptions would remove the competitive disadvantage which exists between liberal minded companies which have profit-sharing for their employes and those which do not.

Charleston Warehouse Sold

C. Bissell Jenkins, president and general manager, Charleston Warehouse & Forwarding Corp., 16 Hessel St., Charleston, S. C., has announced the sale of his firm to the Geer Drug Co., Inc., Charleston, wholesales drug distributors. B. Owen Geer is president. It is understood the buyer will continue to operate the warehouse.

Marine Handling

(*Continued from page* 60)

weigh as much as 300 lb. and the number palletized average about 3000 lb. per fork truck operation. Goods arriving at the pier in bags and bundles, such as, for example, soda ash, hides and used clothing for distribution abroad, can be palletized successfully.

The movement of freight from the warehouse to the hold of the steamer is the next function in materials handling. In this operation the steamer must be separated from the pier to permit better operation of the ship's boom and tackle. "Aprons," or spaces between the ship and the pier, should be at least 10 or 12 ft., otherwise "camels," or floats must be placed in the water to maintain the proper distance.

To facilitate handling, platforms are projected beyond the openings in the side of the pier warehouse at upper and lower floor levels.

(*Continued on page* 140)



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Coastal Shipping

(*Continued from page* 44)

1940, which formulated a new and broader policy of transportation control, placed water carrier regulation under the ICC. The regulation was to be patterned after that prescribed for rail and highway carriers. It included a very important provision affecting certification of new lines. When, later, regulatory control was extended to include freight forwarders all modes of transportation became subject to regulation under laws which give the ICC authority, after investigation, to safeguard effectively the interests of the services themselves and those of the public as well.

It must be remembered that in 1932 a confused and chaotic situation existed. Rail carriers were trying desperately to regain business they had lost to the highway carriers, many of whom were operating through freight handlers and in conjunction with water services. Railroad traffic experts were seeking a means of meeting the competition of other modes of transportation. As a result of recommendations based on the studies of these experts, rates were reduced in 1935 under ICC authority to meet the all-water rates; also nationwide services providing free pick-up and delivery were inaugurated on the basis of line haul rates.

As had happened before when the inland water services, prior to the start of World War I, were nearly obliterated, the water carriers again felt the tremendous power of the railroads. They had no alternative but to yield to the pressure. Rates were reduced and with each reduction the differential spread of the all-water and the water-rail rates, as compared with the old rates, was narrowed. Eventually the point was reached where further reductions had to be made out of direct operating revenue.

With the start of World War II, the last of the vessels still engaged in coastwise shipping were diverted by the government to military service. The question now is whether these services are going to be permitted to rehabilitate themselves. Under existing rate structures, and in view of increased operating and maintenance costs, most of the lines will be unable to resume operations. It is generally conceded that the so-called low spot rates established by the rail carriers in the years between 1932 and 1940 must be restored to adequate levels. All-rail ceilings must be lifted under the law to permit corresponding increases in the all-water and water-rail schedules.

The plight of our coastwise shipping services requires the earnest consideration of the ICC. It is faced with the necessity of revising upward the all-rail rate structure. But the obstacles in the way of accomplishment are great; so great in fact that in the opinion of some traffic men, it may mean the doom of profitable coastal service.

Curiously, shippers who normally would welcome the restoration of the water services, are expected to oppose any increase in the all-rail rate structure for various reasons, many beyond their control. The vast quantities of freight that they formerly shipped by water and water-rail services are now being forwarded by the railroads. Their own expenses have increased tremendously because of labor, raw materials and other costs. Higher shipping rates, in many cases, would seriously retard many shipper's operations. It is questionable whether either the ICC or shippers' organizations will permit the rates for one type of transportation to be increased for the purpose of enabling a competitive type of carrier to be rehabilitated.

The next six months will bring the whole issue sharply into focus and it is my earnest hope and belief that despite its present desperate case we shall eventually see our coastwise shipping returned to its historic place in our economic life.

Trans-Pacific Service

With general administrative offices to be maintained in Los Angeles, a new trans-Pacific steamship service to be known as The Stan Line will soon be placed in operation between Pacific coast ports, including Vancouver, B. C., and major ports of the far east, it was announced recently.

West Coast Ports

(*Continued from page* 67)

dropped, and a straight $45 per month increase was allowed to all merchant marine personnel from captains to messman, to replace the lost income in some measure, and to alleviate increased living costs at home." Mr. St. Amant compared the wage of $145 per month which is standard for able bodied seamen in American flag service with $72 earned by Swedish A.B.'s. The burden of this difference falls directly upon rate structures of the off-shore lines.

The far-reaching fulmination of recent changes has not yet made itself felt by and large, as eventually it must. One reason for this fact is that today's market is open to everyone with a product to ship, and the accent is off transport rates. As goods become more plentiful on both coasts, off-shore markets will commence to select among their sources. It will be up to western shippers and operators to obtain adequate competitive rates to assure uninterrupted flow of their merchandise.

Fortunately, in most cases, and particularly in the case of Los Angeles-Long Beach, harbors were planned with an eye to industrial development. Industrialization, which really began with water borne shipping, has been expanded under the impetus of war demands with unprecedented rapidity. The growth in manufacturing was exceptionally fast. Far more raw materials now are being processed in Pacific port cities and shipped as higher rated finished goods than ever before. Steel is a notable example. Fabricators have entered the picture, and where scrap was shipped in the past, today cast, machined, and finished steelware is moving. The same is true of aluminum, clays, paper goods, rubber goods, drugs, lumber and machinery and of scores of other major items. It remains for the concerted voices of the new leaders in the manufacturing centers of the west to be raised in unison to develop a fair relationship as between carriers, and to smooth away new discrepancies arising from tariffs and policies based largely upon old conditions which no longer prevail in the intercoastal and export trade.

Nature has aided the development of western United States harbors. One such natural subsidy has enabled the port of Los Angeles-Long Beach to become the nation's leading oil port, with storage, pumping, refining, and drilling operations in progress in its own immediate area. Lighterage and bunkering are important among the harbor's servicing operations. Long Beach harbor alone is sup-

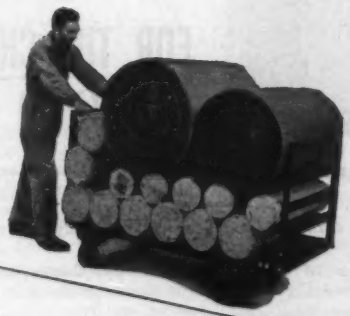
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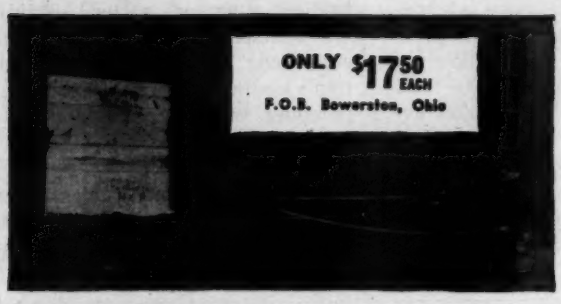
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ported, and its development is financed, by impressively large incomes derived from continuous revenues derived from oil properties in the harbor zone.

Considering the harbors of Los Angeles and Long Beach as a geographical unit, the fact that 3,333,000 persons live in the metropolitan area encircling the harbor would assure its place in the country's post-war commerce. But this is only one of many important factors to be considered. The harbor itself is no haphazard geographical creation.

The harbor now holds over 20,000 sea acres. It is fronted by the greatest roadstead in the world. The harbor, bounded by a granite breakwater, is entirely man made. Its stone arms are still under construction, but the completion of the present plan is in sight. It will easily house our entire Pacific Fleet, and a tremendous volume of shipping in addition.

At the conclusion of the war, it became obvious to shipping and importing people of the Pacific region that there was a need for storage space in some of the harbor areas. This is true especially of the limited port side of Los Angeles-Long Beach. Long Beach's answer is a program for construction of numerous transit sheds to handle swollen cargo accumulations, but Los Angeles must face an entirely different situation. No other seaport city approaching it in size has the same problem, for Los Angeles proper lies a full 20 mi. inland from its harbor, and its warehousing facilities are maintained chiefly in the city. The obvious need is for more storage space at dockside.

Another feature of west coast harbor development has to do with a certain confidence on the part of business men, which, since pioneering days, has been dominant in Pacific coast commerce. Exemplary of this attitude is the growth of import-export business houses in the Los Angeles area. At the outset of the war there were approximately 50 such enterprises in operation. Today, over 400 are listed by the world trade department, Los Angeles Chamber of Commerce. The same trend is seen in other western port cities.

emergency wartime use of this waterway resulted in cash savings which exceeded the total cost of all engineering improvements previously made on the Mississippi River and tributaries.

Another thing which is helping to improve our national waterways is the increasing realization of the need of a national flood control program, especially as related to the disastrous floods of the Ohio and Missouri Rivers. The possible economic values from such a program are emphasized by the example of the generally acknowledged benefits from the TVA flood control program on the Tennessee River.

A flood example which is very pertinent to present needs for the Mississippi River waterway is the continuous harmful effects from the lack of a comprehensive control program for the Missouri River. During its flood stages the Missouri sweeps into the Mississippi River waterway such volumes of silt that the channel is constantly shifting, requiring costly dredging attention to maintain the required minimum channel depth.

Barge Canals

(*Continued from page* 55)

An engineered flood control program for the Mississippi River and tributaries also would check enormous shipping delays and losses during the highwater seasons, and would remove the necessity of costly engineering channel improvements following each flood period.

A third factor which has been helping during recent years to improve our national waterways has been the development of new and much more efficient shipping equipment for our more shallow inland waterways. The enormous tonnage which may be transported today by a single barge canal convoy is almost unbelievable.

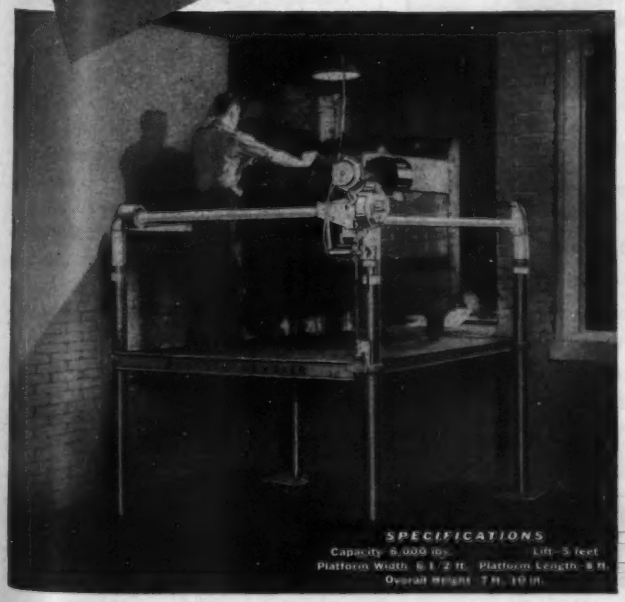
The chief basic unit for this convoy is the new type of flat-bottomed "canal barge" usually constructed of steel. The most used types are 35 ft. to 50 ft. wide, 150 ft. to 300 ft. long, with a draft under 9 ft. when fully loaded with 1200 tons or more of the following most commonly transported freight: iron ore, steel, coal, grain, sand and gravel, sulphur, limestone, and miscellaneous packaged merchandise.

The power unit, that is, the towboat, usually will have a maximum width of 30 ft. to 36 ft., a possible length up to 160 ft. or more, with steam or diesel powered propulsion of 1800 to 2000 brake horsepower. This power unit is capable of towing or pushing (usually pushing) from four to eight or more such loaded scows, cabled together as one compact unit. The size of the tow depends on the width of the channel and the swiftness of the flow of the current if going upstream. Also, there are local channel and bridge and lock regulations which govern the maximum width, length, height and draft of the tow which may be used. In unrestricted open river channels, a single tow unit may be developed to a total width of 70 ft. to 110 ft. and a length of 390 ft. to 450 ft.

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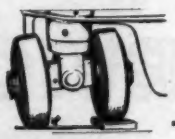
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Lake Ports . . .

(*Continued from page 45*)

early April, which means an annual period of three to four months with little or no lake shipping; at least in the most northern portions. In contrast, on the most southern portions of the Great Lakes, for instance, lower Lake Michigan and Lake Erie, ice channels often can be kept open through almost the entire winter; and if and when the Great Lakes shipping channels should become more used, the maintenance of open ice channels undoubtedly would become common.

Following is the net shipping tonnage reported for the Great Lakes during the 1945 shipping season: iron ore, 84,800,520 tons; bituminous coal, 53,670,827; anthracite, 1,575,360; grain, 18,717,773; limestone, 16,318,193. The wheat shipments, mostly to Europe, were the largest in Great Lakes history, 311,228,532 bu.

There is much speculation as to future Great Lakes developments in package or merchandise freight. Many ships formerly in such service were taken over by the government during the war, and the rate structure for port-to-port common carriers is reported not very favorable for the quick revival of such service.

The outlook seems more favorable for trans-oceanic operations. Chicago reports that several steamship companies are planning to renew prewar freight service to European ports. One Norwegian line which formerly operated 11 to 13 ships on two routes has immediately available some ships of 2,600 - ton deadweight capacity which are planned to carry 1500 to 1600 tons of freight along the present 14-ft. St. Lawrence channel to Montreal, where they will be loaded to full deadweight capacity. Another company will operate ships of 2,900 tons deadweight capacity from lake ports to Norway and Sweden. Previous cargoes included iron and steel, lard, grain, seed, and feed, feathers, hog hair, automobiles, refrigerators, radios, machinery and agricultural implements. Their previous return cargoes included hides, liquors, seeds,

bulbs, and general merchandise.

The Chicago harbor district, as one example of Great Lakes ports, has 90.5 miles of lake front, 52 miles of which are equipped with dock and rail facilities. The river front and canal mileage provides 164 miles of additional port facilities, "either actual or potential." One of the "potential" features is the Calumet-Sag channel enlargement, toward which improvement Congress recently appropriated $28,000,000.

Normally, Chicago is connected with other Great Lakes and North Atlantic ports by 13 different steamship lines. Also, the Chicago Canal and Illinois River barge system normally consists of about 20 common, contract and private lines which connect Chicago with other Mississippi Valley cities. The Chicago harbor district normally handles a greater volume of waterborne traffic than passes through the Panama Canal.

Milwaukee reports "growing utilization of water transportation by large industrial enterprises." Examples are two new port terminal facilities being constructed for oil companies and another for a cement manufacturing company. During the war, Milwaukee and much of Wisconsin and other states were supplied with gasoline and fuel oil which came through their outer harbor, exceeding 650,000 tons for 1945. However, their package freight trade was entirely suspended in 1944, because all ships normally in that trade were then in war service.

In the total, the future of common carrier package freight handling on the Great Lakes seems uncertain, depending on rate adjustments. However, there is promise of continued large shipment of such basic commodities as petroleum products, iron ore, and coal. It seems promising that the Great Lakes ports will retain much of their expanded wartime handling of petroleum products, wheat shipments to foreign ports, iron ore shipping and handling of coal; and large companies are making investments in permanent water distributing facilities.

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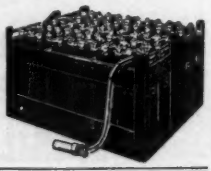
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Explaining Your Product

(*Continued from page* 63)

"of equal quality" we have to assume: "all other things being equal." For instance, a low priced automobile of American manufacture might be equal to, or better than, a car of foreign manufacture selling for the same price, and yet fail to hold the market in a country where low gas consumption is a primary consideration. It requires an extremely well done piece of literature, free from sensational claims, and giving cogent reasons to prospective buyers why the consumption of a little more gas will enable them to enjoy certain other advantages which only the American-made car will give.

The literature which goes abroad with American products, particularly with complicated equipment, is of cardinal importance. Nevertheless, with only a few exceptions, American manufacturers simply do not understand what is needed or involved.

A certain manufacturer has a thriving market let us say in Latin America. He calls in a certain number of translators. He tries to get as low a rate as possible for an operation which normally represents only a very small fraction of the total cost involved. Let us be specific, for this is well worth going into. The manufacturer has a fine descriptive manual, with technical descriptions, a beautiful four color book running about 200 pages or roughly 80,000 words. He wants to print about 20,000 copies. The total bill (exclusive of translation cost) will be about $30,000 or $40,000. He "shops" around for translators and ends up with some commercial agency, whose specialty probably is the translation of ordinary correspondence. He gets the job done for $1 a hundred words or perhaps less. Cost of translation $600 to $800.

To get the kind of talent needed to do a good job, assuming that he can find it, he would have to pay about $2.50 a hundred words or about $2,000. So let us assume he has "saved" his company about $1,500. The only trouble is that his $40,000 manual, in all probability, will have been so atrociously translated that it will be received with hilarity by foreign readers who, after a few unsuccessful attempts at understanding it, will drop the book and look for a product, for example a British article, which invariably is sent to them in clear and intelligent language that they can understand. The final result is that a production bill of $40,000 or more has been thrown down the pipe and incalculable harm has been done to goodwill, all for the sake of "saving" considerably less than five percent of the total cost.

The fact of the matter is that exporters should not think in terms of translation. They should work only with such people as can offer them an adaptation of their literature to the needs of the users of their products abroad. Purely technical manuals can be translated, provided of course they be put in the hands of competent technicians, to whom translation is a problem in understanding what is being described, not in replacing English words with French, Spanish, Portuguese or Russian words. All other literature should be drastically adapted, with emphasis shifted where needed. The North American user of a car may be most interested in qualities which leave the Latin American cold, and vice-versa.

How scarce competent foreign language technologists are is well known to this writer. He once was in charge of recruiting personnel for the Translation Branch of the War Department. Literally thousands of interviews yielded about a dozen truly competent men.

What guarantee has an American exporter who wants to develop his foreign sales, or a manufacturer who wants to enter the export trade, of getting a good job done in the preparation of the literature he must send abroad with his products? The sad truth is he has very little. Most of his work, if he does not exert the utmost caution, may go through the wrong hands. While there are many people

here who know foreign languages, whose native language is foreign, very few of them have the technical qualifications required. As for the existing translation agencies. Many of them condemn themselves by their very names. More than just translation service, or even technical translation service, is needed. This writer, who will be glad, at any time, to advise any potential or actual exporter faced with a problem of the kind described above, has made an extensive study of the problem and has come to the conclusion that the type of service needed, supplied by the men having the qualifications required, has still to be developed.

Translation of the material abroad is no solution. While it may give apparent advantages as to the idiomatic quality of the work, it also is attended with many risks such as failure to understand the English, inadequate technical background on the part of the translators, etc.

While the United States physically may have become a first class exporting nation, it is essential that the right mental attitudes be developed by American businessmen toward the problem of keeping the foreign markets acquired during the war, against keen competition from outside and, in the near future, even from inside some of the present buying countries, whose industries are developing rapidly. The careful preparation of foreign language literature (not essentially advertising, but rather descriptive material) explaining American products to their new users, will play an outstanding part in this new and highly promising venture. Under such a proviso, there are indeed vast new frontiers for American pioneers to develop. They extend all over what is and should be more than ever "One World."

Our Merchant Fleet

In spite of heavy losses inflicted by the enemy, the United States emerged from the global war with almost four times as many merchant ships as there were in its prewar fleet, statistics compiled by the economics and statistics division, U. S. Maritime Commission disclosed recently. The gross tonnage of these vessels was almost five times that of the 1939 total.

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This special advertising section of public warehousing has been consolidated for ready reference and maximum utility. It includes merchandise, refrigerated, household goods and field warehouses. For shippers' convenience, states, cities and firms have been arranged alphabetically.

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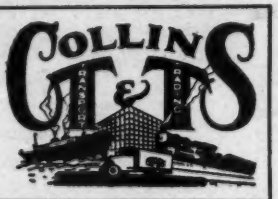
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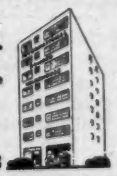
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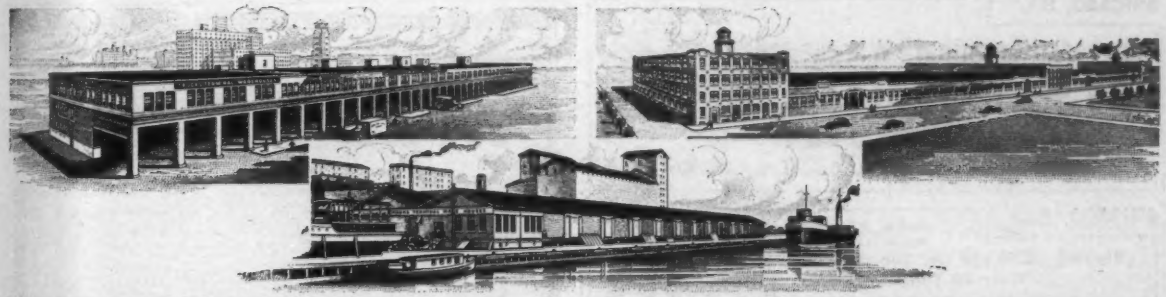
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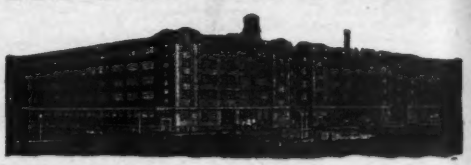
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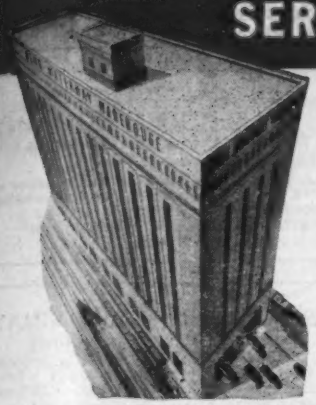
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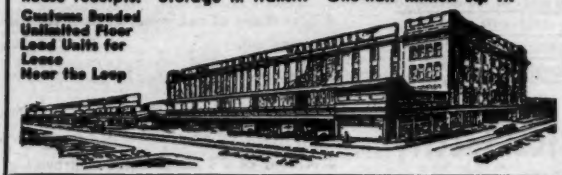
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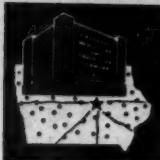
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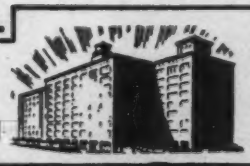
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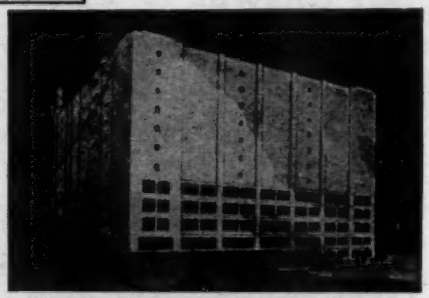
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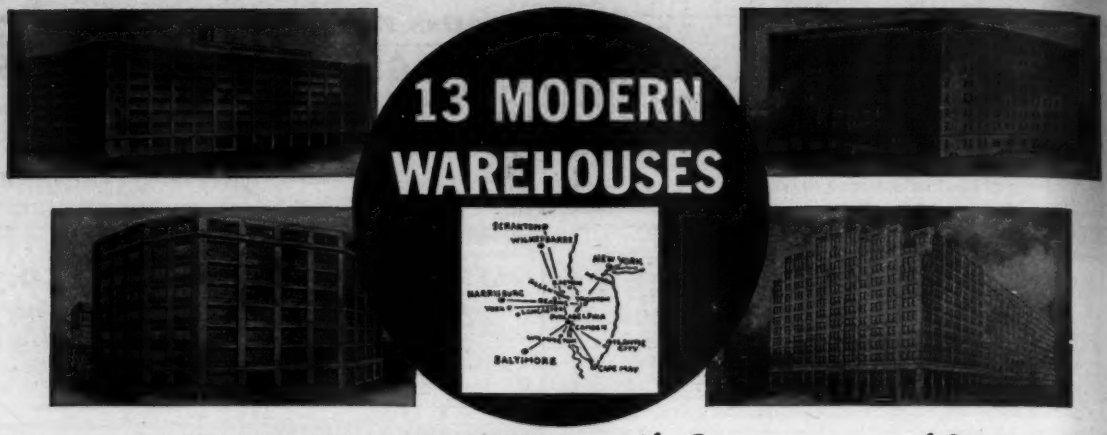
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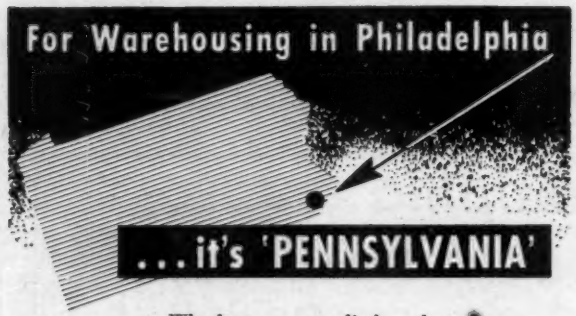
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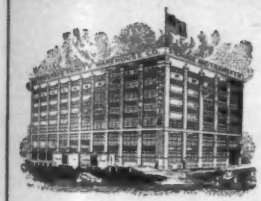
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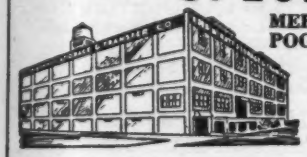
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Pool Car Distribution — Sprinklered Throughout
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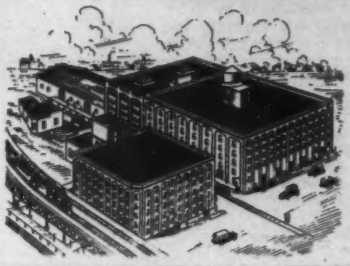
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Marine Handling

(*Continued from page* 99)

These platforms do not actually touch the ship, and nets must be spread over the lower platform to prevent goods from falling into the water. A special device is used to transport palletized goods from the platform to the ship's hold. It consists of a spreader operated in conjunction with the ship's tackle and gear. Suspended iron bars attached to ropes associated with the spreader are designed to fit under the "lips" of a pallet, and it is by this means that hoisting is accomplished. Eventually, palletized loads so delivered may be handled by fork trucks operating in the hold of the ship.

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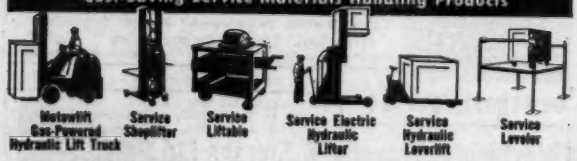
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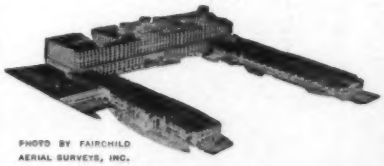


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